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**ARABIC  
ASTRONOMICAL AND  
ASTROLOGICAL  
SCIENCES IN  
LATIN TRANSLATION**

**A CRITICAL BIBLIOGRAPHY**

**BY FRANCIS J. CARMODY**

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# INTRODUCTION

Publication, during the last decades, of several monumental summations of present-day knowledge of ancient and mediaeval science seems to have left few available mysteries for future students to unravel. No one of these books, however, has claimed to exhaust the subject; the fact is merely that, within the breathing spell they now allow, other kinds of exploration may be more profitable. The very scope of the great summations indicates that they could not possibly have turned every stone. The present bibliography is an attempt to present the astronomical and astrological texts themselves in a form that will indicate the exact nature of what has been accomplished and, in so doing, of what still remains to be done.

It is only after constant use of George Sarton's *Introduction to the History of Science*<sup>1</sup> that one becomes aware of the pains that were taken in preparing it. The information, arranged according to the complete works of the authors, is a combination of analysis and documentation. Brockelmann's several works on the history of Arabic literature undertake a similar task in a different way, and have unearthed an immense store of new material. These and other researchers would admit that they passed perforce too rapidly over certain details; the principal reproach one might make to Brockelmann is that the information on the scientific works is inadequate yet tends to give an impression of finality when actually many of the identifications are no more than suggestions.

Brockelmann's service was primarily bibliographical, the locating of texts. It is mainly the exploration of unidentified and unanalyzed scientific documents that marks Lynn Thorndike's *History of Magic and Experimental Science*. Working empirically, and led on by the apparent interest of each text, Thorndike found many treasures, identified them as he could, and set them into

<sup>1</sup>See the bibliography (p. 12) for full information on the works here noted.

the evolution of Western thought. His service to the future lies in his suggestions and in the rich information presented in his many footnotes. This kind of necessary exploration might continue indefinitely; its only disadvantage is its dispersion and the fact that the discoveries tend to remain to some extent hidden.

The most pressing need for studies in the history of science is a body of well-prepared editions in which one can see, and recheck as necessary, the texts themselves. The essential labors of analysis are by their nature imperfect and must be begun afresh from time to time as it becomes possible to read texts with deeper understanding and to see in them what is really important. The history of mediaeval science does not differ in this respect from any other discipline. Statements made in good faith and subsequently shown to be inexact persist in the status of legends. Since scholars in their work depend on precise sources of information, it is not possible to correct such legends without knowing the identity and the exact nature of each source. It may be a manuscript or an early edition in which the statements appear to be true; but one can be assured that such statements are literally true only when one has some real confidence in the edition or the manuscript in question.

Although progress has been made, and many good editions published, the work has hardly begun. The excellence or relative uselessness of a given edition, new or old, can become apparent only when it has been controlled from other sources. There are remarkably faithful editions printed during the Renaissance, and recent ones which tell only a part of the facts. There are several translations or versions of many texts which have not been identified by full documentation even in the more recent editions. In short, there are differences of textual nature which often so alter the context that it is highly deceptive.

The present bibliography is an attempt to coördinate the existing known materials in such way as to show them in as many aspects as possible and in a form as free from subjective judgment as a bibliography allows. A chronological arrangement of authors and a tentative classification of their works permits a picture of the whole field of the astronomical sciences. Brief descriptions of the works, lists of editions and manuscripts, and some idea of the reliability of each, constitute an orientation into the field and illustrate its importance from a mediaeval as well as a modern point of view.

Any such list should, so far as possible, replace preceding ones. Much time is expended in this kind of research because the number of source books to which one is obliged to return time and again for further information, as some problem begins

to take form, is so very large. The immense duplication of effort must be reduced. There are the hundreds of printed catalogues of present-day holdings of manuscript materials. The better catalogues give the incipits and explicits of texts; others give no more than a title. Zinner's monumental list of manuscripts in German libraries usually identifies the documents merely by his own German titles, which often are equivocal. The breathing point in this line of research is Thorndike and Kibre's *Catalogue of Incipits*. So far as my formula of presentation allows, I have replaced all such lists in the present bibliography by pursuing each further, by corroborating the information they offer and adding to it, and by examining at first hand the several hundred manuscript texts which seemed to promise the greatest store of precise information.

Of the many possible forms of presentation that might have been used, I have preferred that of the international project entitled "Mediaeval and Renaissance Latin Translations and Commentaries."<sup>2</sup> This enterprise seeks to present all Greek literature as it is extant in Latin translation by the year 1600, and all Latin literature which was formally commentated by that date. In research work on the astronomers, constant contact with Arabic writings, through which a good part of the Greek passed into Latin, has required further study of the whole combined field. It is for example still impossible to separate the authentic works of Ptolemy or of a unified Hermetic corpus from attributions which give every appearance of being original Arabic tracts. With a few variations, I have then adapted the formula that is being used in the larger project.

The advisability of presenting Arabic astronomy and related sciences entirely within Latin translations may require explanation. Many factors render the editing of works in Arabic impractical. In that language they would not be available to most scholars; and though an English translation would reveal their content, it would serve little purpose for philological studies. The twelfth-century translators were specialists whom we can hardly afford today. Men like Gerard of Cremona and John of Seville devoted themselves to this single scholarly undertaking, locating proper copies of texts and rendering them into a language ill adapted to this order of scientific thought. With such help as they had from other linguists, they were in an ideal position for understanding the exact and full meaning of the documents with which they worked.

The Latin versions offer other advantages. The manuscripts exist in far greater numbers, so that from them one may reconstruct the original copy with assurance. Like any indirect

<sup>2</sup>Under the general editorship of Paul O. Kristeller, Columbia University.

tradition, having fallen into the relatively barren ground of Western Europe, they could no longer suffer internal change. Finally, their true importance today must be recognized as their influence on European thought, which they directed and inspired for several centuries. Much more often than not, their influence can be demonstrated without the slightest doubt by verbatim transcriptions in Western works. The factual nature of scientific texts makes their subject matter relatively anonymous; and the constant risk of minor 'improvements' in a text, or interpolations of new mathematical or technical facts of any kind, can only be controlled on a strictly philological basis, that is, through the wording itself. One last point in favor of the use of Latin translations is that a major part of the essential documents no longer exists in Arabic.

Isolating any part of a culture from the rest is bound to raise borderline problems. On one side of astronomy lies the field of mathematics; of this I include such parts as seem most closely related to the main subject, works for examples by the astronomers themselves, including mention, at least, of various tracts on optics and the astrolabe. Astronomy, furthermore, is inseparable from astrology, not only within the mediaeval mind, a fact which we dare not forget, but even today, philologically, in the overlapping content of the works. The astrologies contain a vast store of technical information on a wide variety of topics, formal planetary theories, improvements on astronomical constants, much experiment on meteorology, important lists of place names, and the whole gamut of the social sciences: tax collecting, agriculture, pharmaceuticals, religion. In a few of these writings, even magic, alchemy, and medicine were subordinated to astrological practices.

One exclusion eliminates essential astronomical fact—namely, that of the commentators on Aristotle. The homocentric system of *De caelo* and the *Metaphysica* permitted and finally required the application of physical laws to a geocentric concept which otherwise would seem destined to have remained a problem in spherical trigonometry. The astronomical doctrines are, however, so deeply buried in the elaborate metaphysical systems that a bibliographical approach would be quite pointless. The picture of Arabic astronomy is also incomplete in the present bibliography for the reason that several important works were never translated into Latin, or translations made were lost. The notable absence of the principal works of al-Bīrūnī is compensated by the excellent editions in English translation; since he had no proved direct contact with European thought, there is no philological loss. Another lacuna appears in the exclusion of Latin works based on Hebrew translations from the Arabic: the situation is

that for the most part the works in Hebrew had been modified one way or another; it seems to me that the work of such a significant Hebrew compiler as Abraham ibn 'Ezra should be treated apart from Arabic science proper, on a par with original European writing or compiling, as of Roger Bacon or Robert Grosseteste.

There is undoubtedly a mass of material translated from the Arabic which is still unidentified and appears as anonymous tracts. Furthermore, a certain number of tracts sometimes or usually attributed to Westerners are probably translations disguised by prefaces. This attenuated variety of plagiarism can only be detected by linguistic tests. I cannot for example reveal the secrets of Māshā'allāh's *Astrolabe*, but I know that most of the text is in the style of John of Seville, and allow thereupon that John of Gmunden may have interpolated (that is 'revised') it. The same problem may be offered by Ptolemy's *Astrolabe*. The *De imbribus* attributed to Ja'far Indus (my 12A.1) has a preface undoubtedly by Hugh of Santalla. The text, however, is in a style that could well be that of Hermann (not that of Hugh), but is even closer to the marked affectations of the *Liber nouem iudicum*. Haskins is indirectly responsible for a number of these attributions. He set about to study the translators, through their prefaces and signatures, but did not study the texts themselves. If one reads him carefully, one can see that he does not document attributions of the texts; nor did he promise to do so.

For the authorship of most texts we must still depend on existing attributions, of which all too many appear in manuscripts as additions in later hands. An objective approach will be possible through internal evidence when we know what to look for; at that point it will be possible to make conjectures about many anonymous documents. I have clarified a number of dilemmas, especially by locating shorter texts as parts of compilations prepared in Arabic. Short tracts opening with the words "Dixit Ptolomeus" or "Dicit Hermes" now appear to be quotations compiled by some later unnamed writer. Since the majority of the anonymous fragments in Latin are probably the work of Europeans, they are not included in the present bibliography.

One may hope for relative completeness of information on Arabic science within several centuries. The physical impediments are enormous. Our present-day knowledge of the Classics depends on some five hundred years of effort by a far greater range of skilled workers than are engaged in the history of science. For hundreds of libraries in Europe there are no printed catalogues; for others, such immense collections as those at Oxford, the British Museum, the Bibliothèque Nationale, and the Vatican, the catalogues are old, incomplete, or otherwise in-

adequate. In order to compare copies for research from documents in different libraries, one must transcribe one or the other; before doing so one needs confidence in the copy selected; and full confidence demands previous knowledge of all the others.

The present bibliography is as free from personal judgment as I can make it. I should perhaps say a few words, however, to make clear my view of the relative importance of certain texts. I assume that any and all work devoted to the history of mathematics or astronomy is worthwhile. Here the most striking need is in the field of the planetary theories, that is, in the improvements of measurements and in methods of analysis, and their application to compiled tables of values. This study will lead to the work of Peurbach and of Regiomontanus. A second neglected field centers on the purely philological exercise of the identification of the sources of the countless quotations, work admirably undertaken by Siëgemann for Dorotheus Sidonius. A third is a study of the many lists of place names, especially in the works of Abû Ma'shar, al-Qabî'sî, and 'Alî ibn abi 'r-Rijâl; these lists offer vital information on the history of geography, exploration, and nationalistic aspirations. From Abû Ma'shar one may also develop a history of the evolution of concepts of celestial images and hence of a whole field of mediaeval art and imagination. Jâbir's comparisons of the modern star positions with those given by Ptolemy may, when analysed, prove of real interest. The technological information still buried in the astrologies must be disengaged according to the methods used by Cumont.<sup>3</sup> Finally, many texts deserve editing for philological reasons alone, and some, for instance Mâshâ'allâh, as samples of fine mediaeval literature.

Since I have departed in some ways from the formula being used in the bibliography of translations from the Greek, a few further remarks may be appropriate. My departures were motivated primarily by a desire to avoid duplication between the two lists. I do not give the biographies of the Latin translators, which will appear in the larger project. Among Greek works I note, and in summary fashion, only those that bear most closely on Arabic science; my complete presentation of the work of Ptolemy, for example, occupies some fifty pages. By placing the Arabic authors as nearly as possible in chronological order, the evolution of the sciences can be visualized and influences understood by inspection. The order in which the works of each Arabic author is presented is a compromise. Although some rational or topical grouping is possible when the texts by a given author are numerous, as for example those of Hermes, other criteria have seemed more important. Thus many works are here grouped

<sup>3</sup>F. Cumont, *L'Egypte des astrologues*, Brussels, 1937.

according to their probable textual interrelationship or their frequent proximity in manuscripts. Finally, apparent authenticity may be measured, in a way, by the number of extant copies, and the tracts found only in single manuscripts placed last as dubious.

Description of texts by incipits alone has led to innumerable errors. By study of explicits and of interior headings of books or chapters, I have gathered the parts of several important compilations, or noted that two works have sometimes been considered as one. My innovations include the reconstruction of two composite tracts by Mâshâ'allâh (nos. 9 and 10), and of the several distinct texts entitled *Liber nouem iudicum*. Within these can now be placed a large number of short books or chapters by Dorotheus, Sahl, Jirjis, Ptolemy, and Aristotle. I have done similar services for the works of Sahl, Thâbit, and az-Zarqâlî. I have also applied linguistic and lexical arguments to naming a number of Latin translators.

The editions of each Latin text are arranged chronologically. To avoid repetition I have numbered a score of editions as 'omnibuses,' and identified them in full on p. 13. The manuscripts are listed by names of cities. There are four categories of editions and manuscripts. When several translations or versions of a work are known to exist, unidentified copies are mentioned before the separate entries. Two stars [\*\*] placed before identification of a copy indicate that I have examined it, or photographs of it, and that it is probably complete and reliable unless otherwise described. Copies preceded by one star [\*] are apparently complete and reliable. They are here reported from my own notes or from previous listings or studies, and are understood to have been identified by unequivocal incipits and usually also by explicits. Copies bearing no mark have been identified through earlier listings in which the necessary details were not recorded.

### CRITICAL METHOD

[The texts described in the present study are presented according to a far more detailed method than has hitherto been used. Aside from specific references to preceding research, all information is derived immediately from the editions or manuscripts cited. Lack of symmetry in the presentation is the inevitable result of complicating factors peculiar to each text. The information on the texts is divided according to several headings in such way as to emphasize, in a few words, the salient facts of importance.]

### Arabic Literature

*Authors.* For the primary and simplest identification, I give the parts of the Arabic names that were commonly used for

transliteration into Latin during the Middle Ages, simpler than modern Arabic usage. After each name I place one of the commonest variants of the Latin transliterations, which usually are numerous, and choice among which is difficult to make on any basis other than frequency and practical usefulness.

*Biographies.* These are stated very summarily, since the reader is referred to the works of Brockelmann, Sarton, and Thorndike for further information. Generally, it seems to me wholly useless to repeat the standard references to earlier authorities such as Suter, Wüstenfeld, or Steinschneider, since their work has for the most part been completely superseded by more informed research.

*Works of an Author.* A rapid survey of the scope of the nonastronomical writings is given, usually documented entirely from Brockelmann.

*Tract Described.* Whenever possible, the Arabic title of the tract and the location of several manuscripts presumably suitable for research are supplied. It must be noted that Brockelmann's identifications between Arabic and Latin are not reliable in the field of the sciences, and were often merely copied from earlier associations.

*Text.* I give the physical state of the contents as known to me, and problems of dependence on or relationship to other texts. In general, since these facts are known only with reference to the Latin translations, this information is placed below.

*Contents.* The material included in the tract is described. Especially for astrology, until far more research has been done, little more can be stated than the most obvious facts. I have taken special pains to mention under this heading all marginal scientific content such as geography.

#### Latin Literature

*Significance of the Tract.* No study of the place of the several works in the evolution of Arabic literature is here proposed. The Latin texts treated may either be important because they were quoted by Western writers or because they quote earlier works, or on account of their scientific content. Thus by 'significance' I indicate either sources, influence, or scientific innovation. One cannot of course speak of the 'significance' of most minor works.

*Collation.* I state my opinions regarding the relative merits of the extant copies I have used, as determined by comparisons of several of them with each other, or of one or more with the Arabic sources, with other versions or translations, or with verbatim transcriptions made by Latin compilers. It is not possible to say of one or even of six or eight copies that

that they are "without doubt complete" unless they can be collated in detail with their Arabic source. One may, however, state with assurance that certain copies are "apparently complete," first because they show the proper incipit and explicit and are of suitable length, second because the text is divided exactly into chapters with headings, or chapters that deal systematically with a certain sequence of topics. Of other copies one may say that they are incomplete because they lack integral parts found in longer copies, or show an explicit which is an interior part of longer copies, or break off abruptly. My collation also includes formal transcriptions of a number of complete texts or of long passages from others used as critical information for research on other works. The principal value of the several great Latin compilations, by Leopold, John of Ashenden, and Guido Bonatti, is that they offer this possibility of critical evaluation of copies of their sources.

#### Quotations from the Latin Texts

[Variant readings, given in brackets, are not to be construed as choice or preference, but merely as added information; judgments concerning variants have been avoided.]

*Dedications, Invocations.* These are systematically isolated for the first time, since in effect, as incipits, they have relatively small value.

*Prefaces, Prologues.* These too are isolated, for the same reason. It should be noted that many of the prefaces made by the translators have been studied by Haskins, who often prints long extracts from them. Furthermore, certain attributions, here denied, have risen from failure to separate translators' prefaces from the translation proper.

*Incipits.* I have transcribed as much as has been given in catalogues, when I have seen no manuscripts or editions, or, when modern editions exist, enough to identify the text. Usually, however, I have given the incipit through the first statement of objective or scientific fact, in order to permit its subsequent use for locating other versions or translations or the Arabic original. Where several versions or Latin translations are already known, I merely give enough of the text to identify each without doubt. Longer quotations are intended to show that certain manuscripts have lost a few words at the beginning and to identify them by added detail.

*Interior Quotations.* I quote from the body of a text for several purposes. For important tracts hitherto unstudied, interior quotations may show the form or content more clearly and briefly than a description, or they may serve as objective further proof of the existence of several versions or translations. As for the

compilations known to date only in fragments, notably the *Liber nouem iudicum*, interior quotations permit exact location of the fragments, hitherto treated as separate works.

*Explicit.* Aside from worthy presentation in several of the best catalogues (that for Erfurt, for instance), and in notes by several scholars devoted to limited collections (Björnbo, Saxl, etc.), explicit have hitherto been almost completely ignored. By careful study of them I have discovered that texts reported in catalogues are sometimes really two separate works, and I have located a number of imperfect explicit within texts and stated definitively that the copy in question is incomplete.

*Signatures.* Sometimes a signature is no more than a repetition of the title, at other times an invocation, usually a statement by the translator. The latter class of signature was studied by Haskins; I have found a number not yet reported, and have gathered others dispersed in catalogues.

*Appended Texts.* These are of short, unidentified tracts which appear immediately after the tract being discussed, in the same hand and with some possible textual relationship. The major task still facing research in mediaeval science is the identification of a host of anonymous works. Hitherto these have been classified as isolated entities, though there is some chance that their position in manuscripts may help in their identification.

#### BIBLIOGRAPHICAL METHOD

*Editions.* These surely include a number of 'ghosts.' Copies starred I know to exist. I have made a special effort to evaluate the editions, since they are more convenient and accessible; but for only a few tracts does my information come largely from them.

*Manuscripts.* I list all I have found mentioned anywhere, except those recently used for critical editions where, in effect, the manuscripts are at least temporarily superseded by a better text. My lists may include about half of the extant copies.

Catalogues of manuscripts: I have used about 600 volumes, plus a score of handwritten inventories. The relative usefulness of these is attested by the symbol [\*]. Thus the excellent catalogues for Erfurt and Digby, and the only slightly less useful one for Vienna, usually allow reasonable identification. It should be noted that the catalogues for a number of the great libraries are wholly inadequate—Brussels, the Bibliothèque Nationale, the British Museum, the Bodleian, the Vatican, etc.

Descriptions of manuscripts: The works of Björnbo and Saxl, and TK, etc., include many precise descriptions of manuscript material superior to that of existing catalogues. Reference is made to these only when it seemed to me to serve some useful

purpose. Zinner's monumental list of manuscripts in German libraries is my source of information for uncatalogued collections in that country; much of his material is highly equivocal since he seldom gives incipits and usually translates titles into German.

Source books on the history of science: Brockelmann, Haskins, Sarton, and Thorndike are frequently quoted, and in general replace such earlier works as Suter or the Fihrist.

Manuscripts and early editions: I have consulted those in Paris, London, Oxford, and a large number in the United States; I rely on photographs for those in Germany, Italy, Vienna, and Cambridge.



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(with Abbreviations)

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- Bj. A. Bjørnbo's description of Florence mss. in *Bibl. Math.*, 1903-1912
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- Th. L. Thorndike, *History of Magic and Experimental Science*, 4 vols., New York, 1923-1934 (plus notes from his letters to me)
- TK L. Thorndike and P. Kibre, *A Catalogue of Incipits of Mediaeval Scientific Writing in Latin*, Cambridge, Mass., 1937
- ZDMG *Zeitschrift d. deut. morgenländische Gesellschaft*
- Zi E. Zinner, *Verzeichnis der astronom. Hands. des deutschen Kulturgebietes*, Munich, 1925
- ZfM *Zeitschrift für Mathematik und Physik*, Leipzig: Teubner

## OMNIBUS EDITIONS

[Note. Several copies of each edition have usually been consulted; they differ in imprint and pagination and are often bound factitiously with other editions, thus hiding their identity; they were studied primarily with reference to the texts they contain which are by Ptolemy.]

1. 1484 (Sept.) and 1484/1485 (Jan. 15), Venetiis, per Erhardum Ratdolt (*Ptolemaei Quadripartitum, Centiloquium*, Hermes, Bethem, Mâshâ' allâh, Râzî, Sahl) [Hain-Cop. \*13543, BM, BN, *Census*]
2. 1492 (Kal. Jun.), Venetiis, per me Aluisium (Abû Bakr, Hermes, Râzî) [*Census*]
3. 1493/1494 (20 Dec., 13 Kal. Jan.), Venetiis, per Bonatum Locatellum (*Quadripartitum, Centiloquium*, Abû Bakr, Bethem, Hermes, Mâshâ' allâh, Râzî, Sahl) [Hain 13544, BM, BN, *Census*]
4. 1501 (23 Feb.), Venetiis, per Jo. Baptistam Sessa (Abû Bakr, Hermes, Râzî)
5. 1507, Venetiis, Petrus Liechtenstein (Abraham b. 'Ezra *Opera*, Bethem) [Osler]
6. 1509, Venetiis, Petrus Liechtenstein (Ptolemy, *Liber nouem iudicum*, al-Kindî, Mâshâ' allâh, Sahl)
7. 1519 (6 Feb.), Venetiis, mandato heredum Octauiani Scoti (exact reprint of 1493) [BM, BN, *Census*]
8. 1524/1525, Venetiis (G. Trapezuntius, 'Alî ibn abi 'r-Rijâl, Tabarî)

9. 1533 (Mar. and Apr.), Basiliae, ex officina Ioannis Hervagii (Firmicus Maternus, Ptolemy, Bethem, Hermes, Mâshâ'allâh, Râzî, Sahl, Tabarî) [BN]
10. 1541 (reprint of 1533; some copies bear the imprint "apud Henricum Petrum")
11. 1546, Norimbergae, I. Montanus et Ul. Neuber, edited by I. Heller (Abû 'Alî, Mâshâ'allâh); reprinted from same plates in 1549 [NY Publ.]
12. 1549, Norimbergae (same imprint as ed. 1546: Mâshâ'allâh) [NY Public]
13. 1551 (Mar.), Basiliae, in officina H. Petri (reprint of 1541) [BM, BN, *Census*]
14. 1551 (Apr.), Basiliae, ex officina Ioannis Heruagii (per Ioannem Heruagium) (reprint of 1533) [BM, BN, *Census*]
15. 1557, Basiliae, reprint of 1541
16. 1559 (Sept.), Basiliae, Petriana (Porphyrius, Ptolemy, Abû Ma'shar)
17. 1641, Ulmae (*Astronomica aphoristica*: Ptolemy, Hermes, (Râzî); reprinted (?) 1674, Ulmae (same contents); not seen

## PTOLEMY

(Died after 161 A.D.)

Works: Beside the authentic works, I note 35 attributions, many no doubt spurious, often associated simultaneously with Hermes and with Hindu doctrines; the texts dealing with astrological medicine may belong to a Hippocratic tradition. The Greek *Opera omnia* were edited by J. L. Heiberg at Leipzig (Teubner), 3 vols., 1898-1907. The complete presentation of this material will appear in the Kristeller project.

### Authentic works

#### 1. Almagest

Arabic: There are two complete and commonly used translations, that of Ishâq b. Hunayn ibn Ishâq (died 260/873-4 acc. Derenb., others say 911, see Br. '37 363, '43 221, Sarton 1.611; perhaps revised by Thâbit), and that of al-Ḥajjāj b. Yūsuf b. Maṭar (made in 829 for al-Ma'mûn, 786-833); the latter was translated into Latin (for further detail see my edition of al-Biṭrûjî, p. 24); the other Latin translations and commentaries (e.g. ca. 1160) were based on Gerard and/or the Greek.

Latin translation: by Gerard of Cremona in 1175; includes a prologue (the *Pulchritudo* or *Bocados de oro*, edit. Knust, 1879, in about 600 words) by Abu 'l-Wafâ' Mubashshir b. Fatiq, and the signatures of al-Ḥajjāj and of Gerard (these were copied into other Latin versions from this one).

Prol.: QUIDAM PRINCEPS nomine Albugaife ...

Note by al-Ḥajjāj: Liber hic precepto Maimonis regis arabum ...

Inc.: BONUM SCIRE FUT quod sapientibus non deuiantibus ...

Expl.: ... ut ponamus hic finem libri.

Editions: \*\*1515 (Jan. 10), Venice: in officina Petri Liechtenstein

1547, Venice (with G. Pastrengius, *De originibus rerum*), 55<sup>v</sup> seq.

Manuscripts: I note 32 and have collated large parts of 6 of those in Paris BN. 15

## 2. Analemmate

Text: extant only in Latin, translated from Greek by William of Moerbeke.

Inc.: CONSIDERANTI MIHI o Syre angulorum acceptorum in locum gnomonicum ...

Editions: \*\*1907, Leipzig (*Opera omnia* 2.189-223)

## 3. Centiloquium

Text: the *Kapnós* (*Fructus*), 100 aphorisms on astrology. The Arabic text contains a commentary by 'Alī b. Riḍwān (died 1068, no. 30), but some believe that Aḥmad b. Yūsuf al-Miṣrī (9th c., see Sarton 3.431), Abū Ja'far b. Yūsuf, Ibn ad-Dayā (see Br. '98 149), or Aḥmad ibn Ibrāhīm were involved. The Latin was in turn commented and the several versions occasionally combined in revisions.

## a. Hugh of Santalla (1140?)

Preface: DE HIS QUE ad iudiciorum ... (quoted in full by Haskins, 69-70)

Inc.: ASTRORUM SCIENTIA de te et de illis]: Hoc in sermone de te et de illis uidetur uelle Ptholomeus duplicem esse ...

Manuscripts: \*Madrid 10009, 85r-

\*Naples BN D 8 4

## b. John of Seville

Inc.: IAM SCRIPSI TIBI Iesure libros ...

Prop. 1: SCIENTIA STELLARUM ex te et ex illis ... [Comm.] Quod dicit Ptholomeus 'ex te et ex illis' significat quod qui res futuras pronoscere ...

Prop. 100: Alnaezic signat siccos uapores ... error foret si traderetur illi.

Sign.: Et ego dominum precor ... anno arabum 530.

Editions: omn. 1, 3, 7; I have seen a score of the 10 mss. (a few are no doubt copies of the translations from the Greek).

## c. Undetermined translation and commentary

Prol.: MUNDANORUM MUTATIO ad hoc et ad illud coriorum ...

Prop. 1: SCIENTIA ASTRORUM ex te et ex illis]. Hec conuenit peritum illorum ...

Prop. 99: Scintillationes stellarum et stelle cum caudis ...

Manuscripts: \*\*Erfurt 4° 376

\*\*Paris BN 7282

## d. De cometis

Text: an amplification of prop. 99 of [c] above, to which is appended a new commentary; presented as a separate work in

a number of manuscripts. Andalò di Negro may have reworked this material, see *Bulletino* 7 (1874), 360-362.

Pref.: ITEM PREMISI LIBROS in quibus tractauit de impressionibus planetarum ...

Inc. (= prop. 99): [Ptolomeus dixit quod] STELLE CUM CAUDIS sunt 9, prima Ueru, secunda Cenacula ...

Expl.: ... in regibus et diuitibus apparebit.

Comm.: Dixit Tholomeus et Hermes quod Lune locus in hora in qua infunditur sperma ...

Expl.: ... et hoc expertus fuit multotiens.

Manuscripts: \*\*Erfurt 2° 379, \*\*4° 376, \*\*377

## e. William of Aragon

Inc.: Sicut dixit Ptolomeus in prouerbiis *Almagesti*: NON FUIT MORTUUS ...

Editions: See *Bibl. de l'Ecole des Chartes* 106, 1945-46

## 4. Cosmographia (Geographia)

Text: editions and partial editions of the Greek by Fischer, Müller, Nobbes, etc.; Latin translation from the Greek, by Iacopus Angelus, before 1409.

## 5. Harmonicorum liber

Text: editions of the Greek by Wallis, 1682, and Düring, 1930; all Latin translations are based on the Greek (omn. 9, 10, 13).

## 5a. Hypotyposes

Translations: none made before the Latin of the 17th c.

## 6. Inerrantium stellarum apparitiones

Text: edition of the Greek by Petau, 1630; all Latin translations are based on the Greek (omn. 9, 10, 13).

## 7a. De iudiciis ad Aristonem

Text: also attributed to Aristotle; table of chapters in Millás, *Trad.*, 175-176. See below Ptol. 35-36.

Inc.: SIGNORUM ALIA SUNT masculini generis alia feminini scilicet ut Taurus Canes Uirgo ...

Edition: \*1509 (omn. 7); 12 mss.

## 7b. Another translation (?)

Inc.: SIGNORUM ALIA sunt masculina alia feminina. Mascula ut Aries Gemini Leo ...

Manuscript: \*\*Florence S. Marci 194, 75r-

# 8. De opticis siue aspectibus

Translation: by Eugene, royal admiral of Sicily, 1154, from Arabic.

Inc.: CUM CONSIDERAREM OPTICA Ptolomei necessaria utique fore scientiam ...

Edition: 1885, Turin, by G. Govi; I note 9 mss.

# 9. Planispherium

Translation: from the Greek (which is now lost) by Maslama (died 1007, no. 26); Latin from Arabic by Hermann of Carinthia, 1143 (for his dedication to Thierry of Chartres see Haskins 47); later translations by Commandinus etc.

Pref.: QUEMADMODUM Ptolomeus et ante eum nonnulli ueteris ...  
Prol.: CUM SIT POSSIBILE Iesure et plerumque necessarium ut in plano represententur circuli ...

Editions: 1507/8, Rome (with Ptolemy, *Geographia*); 1531, Nuremberg (with J. Ziegler, *De solidae sphaerae constructione*); 1536, Basel: Ioh. Walder.

Manuscripts: Heiberg lists 6, I note 5 others.

# 10. Quadripartitum

Text: Greek in editions of 1535, 1553, and *Opera omnia*, vol. III. The Arabic is known in the commentary of 'Alî b. Riḍwân (died 1068, no. 30).

## a. Plato of Tivoli, 1138

Text: said to be based on an Arabic revision by Ibrâhîm ibn as-Salt corrected by Thâbit (died 901, no. 18) and/or Ḥunayn ibn Ishâq (see Ptol. no. 1).

Inc.: RERUM IESURE in quibus est pronosticabilis scientie stellarum perfectio ...

Editions: omn. 1, 3, 8, 10, 11, 13; I note 9 mss.

## b. Translation of 1206

Text: from the Arabic, see Haskins 110-111.

Prol.: PROLIXITATE EXOSA latinitas artium principia ...

Inc.: EX STELLARUM HABITUDINE prescientie perfectio consecuta Iesuri ...

Manuscripts: Florence BN J II 10, 91<sup>r</sup>-

\*\*Parma Bib. Pal. 719, 311<sup>r</sup>-

\*\*Wolfenbüttel 4451, 162<sup>r</sup>-

## c. Undetermined

Text: see Haskins 111.

Inc.: IUXTA PROUIDAM [prudential] philosophorum assertionem ...

Manuscripts: \*Bruges 520, 48<sup>r</sup>-

\*\*Madrid BN 10053, 79<sup>r</sup>-

## d. Undetermined, 1234

Inc.: ACCIDENTIA SCIENTIE futurorum de significatione super illud quod prouenturum ...

Manuscript: \*\*London BM Harley 267, 24<sup>r</sup>-

## e. Quoted by Henri Bates in 1281

Inc.: HIIS QUI INSTITUUNT per astronomiam pronosticum finem o Sire ...

Manuscript: \*\*Oxford Digby 171<sup>r</sup>-

## f. Aegidius de Tebaldis, 1256

Text: based on the Arabic of 'Alî b. Riḍwân with his commentary.

Inc.: RES O MIZORI quibus pronosticationes accepte de astronomia ...

Manuscripts: I note 55.

## Dubious Works

11. Lucidarium ALMAGESTI (Hippocratic, medical): FUTURORUM SIGNIFICATIONES ualde decorant mentem ... \*\*Vienna 2296, 100<sup>r</sup>-, Cambridge St. Johns 78, 116<sup>v</sup>-
12. De duodecim ANULIS Ueneris (astrological lapidary): ACCIPE IASPIDEM ... TK 8, and cf. 342
13. De ASPECTIBUS Lune ad planetis (with comm. by 'Alî = ?): OPPOSITIO LUNE cum Saturno ... \*\*Oxford Canon. misc. 517, 49<sup>v</sup>-
14. Canones ASTROLABII: QUIA [CUM] PLURIMI obniam ... \*\*Vienna 5210, 108<sup>r</sup> and 3 others
15. Compositio ASTROLABII secundum Hermannum (Hermann's *Walzachora* or its source): IN METIENDA igitur subtilissime ... \*Oxford Digby 51, 18<sup>r</sup>-
16. Epistula Ptolomei de ASTROLABIO: QUICUMQUE ASTRONOMICE peritiam ... \*\*Oxford Digby 51, 21<sup>r</sup>-, 174, 200<sup>r</sup>-, Avranches 234, 58<sup>r</sup>- (also attrib. to Hermann and to Abu 'l-Qasim, no. 26)
17. Compositio ASTROLABII: QUONIAM IN MUNDI spera motus perfectus ... \*Vienna 5311, 33<sup>r</sup>- (Latin by Robert of Chester)
18. Liber de officio ASTROLABII: DE GRADU SOLIS per diem et diei ...: SI GRADUM Solis in singulis ... \*Oxford Canon. misc. 61
19. De compositione uniuersalis ASTROLABII: PTOLOMEUS G (?) MERCURII incedens uestigiis ... Sit igitur mater tabula astrolabii ... \*Oxford Digby 40, 1<sup>r</sup>- (Latin by Robert of Chester A.D. 1147, cf. no. 17 above)

20. Preceptum CANONIS (an abridgment of 534 of the Canons of Theon of Alexandria, see Th. 3.15): INTELLECTUS [-IGE] CLIMATUM poli sepiissime requies ... I note 8 mss.
- 21a. De ECLIPSIBUS: POST HANC PREDICTORUM observationem qualiter futura ... \*\*Paris BN 7329, 60<sup>r</sup>-
22. De ELECTIONIBUS: IN PRIMIS TRACTATIBUS unius (?) notauimus per dicta Ptholomei ... BENE SUFFICIT nobis id quod uniuersaliter ... Editions: Paris 1509, omn. 6; \*\*Paris BN 7302, 133<sup>v</sup>-
23. Liber FIGURE Ptolomei: CUM OMNIBUS DIRECTE intuentibus constat ... \*\*Vatican Palat. 1414, 27<sup>r</sup>-
- 23a. FIGURE 7 planetarum: SCIAS QUOD in istis 7 figuris ... Oxford Corpus Christi 125, 76<sup>r</sup>-
24. Archanum de reductione GEOMANTIE ad orbem: PER HOC PRESENS opus possunt cognosci ... Paris BN 7349, 138, 15353, 87
25. GEOMANTIA parua: CUM LICET SECUNDUM doctrinam ... (see Thâbit no. 7c)
26. Liber HOROLOGII regis Ptolomei: QUOMODO SCIAS altitudinem Solis ... ISTE TITULUS est quomodo debes in primis laborare ... \*\*Vatican Palat. 1377, 95<sup>r</sup>-
27. Tractatus ad sciendum HORAS diei: LONGE QUIDEM ANTE sapientes uel philosophos ... nepos fuit Trismegistus ... CELUM Igitur inclinatum uoluitur a meridiano ... \*\*Vatican Palat. 1417, 1<sup>r</sup>-
28. Opus IMAGINUM: Dixit Alburabeth Becifelir [-z] quod OMNES ORIENTALES operabantur per has imagines ... Sign.: Dixit Ptolomeus: EDIDI HUNC LIBRUM de imaginibus ... \*\*Paris BN 7272, 171<sup>v</sup>- (see Thâbit no. 7)
29. Tractatus de IMAGINIBUS: SI DISCORDARE quempiam uelis diriga imaginem hora Martis ... \*\*Florence Laur. 89-38, 3<sup>v</sup>-
30. —: PARS IMAGINUM est multiplex ... TK 479
31. IUDICIA Ptolomei: DE OPERATIONE PLANETARUM in concepto ... \*Cues 209, 1<sup>r</sup>-
32. Introductorius IUDICIORUM apotelesmaticon: RERUM OMNIUM PRIMA et efficiens causa ... \*Cambrai 955, 1<sup>r</sup>-
33. De IUDICIIS partium: QUONIAM IN PRIMO libro partium terminos et loca posuimus ... \*\*Vatican Palat. 1892, 99<sup>r</sup>- and 5 others
34. — Pars fortune (on the same method, medical): HORUM FERAT DEUS mores nobiles ... \*\*Florence BN II III 214, 54<sup>r</sup>- \*Vatican Palat. 1892, 103<sup>v</sup>-
35. De IUDICIIS: CONSEQUENTER UIDENDUM est de formis et figuris ... \*\*Vienna 2378, 15<sup>r</sup>-
36. Liber IUDICIORUM: SIGNORUM DUODECIM alternus est ordo scilicet masculina et feminea diurna et nocturna ... (cf. Ptol. no. 7) \*\*Erfurt 4° 377, 51<sup>r</sup>-

37. De LAPIDIBUS pretiosis et sigillis eorum: REGI PTOLOMEO rex Azareus ... LAPIS IN CUIUS superficie equum alatum ... \*\*Vienna 5311, 35<sup>r</sup>-
38. [Medical] Propositio Ptolomei de CRISI: ALBAHAEMI SANE et certe sunt hore in quibus ... \*\*Cambridge Pembroke 204, 69<sup>v</sup>
39. De CRITICIS diebus: DE CRITICIS DIEBUS in continuis febribus ... Paris BN 7316A, 50<sup>r</sup>-
40. De cognitionibus MORBORUM: DESCRIPTIO FIGURE Ptholomei ... HEC EST FIGURA Ptolomei ... \*\*Erfurt 4° 215, 88<sup>v</sup>
41. De tribus NATIUITATIBUS: UOLO DICERE IN hoc loco tibi ... Omn. 3, 7, and 3 mss.
42. Utrum NATIUITAS fuit masculina: Dicit Tholomeus huius rei causa maxime proprie ... \*\*Cambridge Pembroke 204, 68<sup>r</sup>-
43. Scientia PROIECTIONIS radiorum stellarum: CUM PROIECTIONEM [scientiam projectionis] radiorum stellarum scire uolueris, ... Omn. 1, 3, 8 \*\*Cambridge Trinity 1185, 120<sup>v</sup> ('Alcoali de natiuitatibus') and 4 others
44. —: CUM UOLUERIS proicere radios ... \*Vienna 3124, 149<sup>r</sup>- (also attrib. to Sahl). [Compare Abū Ma'shar book 7 cap. 1: De projectione radiorum planetarum Ptolomei ...: Narrauerunt ... Dixit autem CUM UOLUERIS SCIRE projectionem radiorum planetarum, aspice ...]
45. SECRETA secretorum Ptolomei: PRIMA FIGURA Saturni ... Vatican Ottob. 1809, 21<sup>r</sup>- (acc. Th.).
46. De SPECULIS: DUOBUS SENSIBUS existentibus per quod fit uia ad sapientiam secundum Platonem ... Said to be Hero of Alexandria's *Catoptrica*. Editions with Sacrobosco Venice, Jan. 19 1518, June 30 1518, and Venice: Giunti, 1531; translated by William of Moerbeke 1269
47. Preparatio SPECULI in quo uideas alterius imaginem et non tuam: SIT AB PARIES ... Edition *Abh. z. Gesch. der Math.* 1911, 97-106 (noting 11 mss) (cf. al-Hasan, no. 25)
48. De UISIBUS: UISUM RECTUM [RECTUM UISUM] esse cuius media terminos recte continuant ... Also attrib. to Euclid. \*\*Erfurt 4° 376, 126<sup>r</sup>- and 5 others

## Other Greek Astronomers

Note: The major texts are described summarily for reference as sources and in order to indicate the nature of their individual relationship to Arabic and Latin scientific literature. There are a number of omnibus manuscripts in Arabic containing the works of Archimedes, Autolycus, Euclid, Menelaos, and Theodosius, e.g. Berlin Mf 258, Mq 559, London India Office 743, 744

1. Aristarchus of Samos (ca. 280 B.C.). All Latin translations are from the Greek, e.g. by George Valla ca. 1490.
2. Autolycus of Pitane (ca. 300 B.C.). *De ortu et occasu siderum* first Latin translation by F. Maurolycus from the Greek, by 1534. *De sphaera*, Latin by Gerard of Cremona from the Arabic of Ishâq b. Hunayn ibn Ishâq, of his father Abû Zayd Hunayn (died 877, Br. '43, 224-227), or the revisions of these by Thâbit or at-Tûsi. Inc.: PUNCTUM EQUALI motu dicitur moueri cum quantitates euales ..., ed. \*\*1948 by J. Mogenet. Dorotheus Sidonius, see later, n<sup>o</sup>. 8.
3. Hypsicles (ca. 146 B.C.). *De ascensionibus*, Latin by Gerard of Cremona (*Liber Esculei*) from the Arabic of Qusṭa b. Lûqâ (no. 21), revised by al-Kindî (no. 12), see Br. '43, 222, ms. Escorial 907 (Derenbourg), India Office 743. Inc.: SI FUERINT QUOTLIBET quantitates quarum numeratio ..., ed. \*\*1657 [1557?], Paris: Cramoisy, and 1888 (see TK 669).
4. Menelaos Alexandrinus (fl. 98 A.D.). *De sphaera*, Latin from Arabic by Gerard of Cremona, Greek lost, Arabic from Syriac by Abû Naṣr Maṣṣûr b. 'Alî b. 'Irâq (before 1007, see Br. '37, 929). Inc.: DECLARARE UOLO qualiter faciam supra punctum ..., ed. 1758, Oxford, by Halley and Costard, a composite from various languages, ms. \*Oxford Digby 168, 119<sup>r</sup>-, and 25 others.
5. Theon Alexandrinus. His commentary on the *Almagest*, probably known to the Arabs, was first translated into Latin from the Greek in the 16th c.
6. Theodosius of Tripoli (fl. ca. 100 B.C.). *De diebus et noctibus*, Latin from Greek by Joseph Auria, ed. 1591. *De habitationibus*, Latin presumably from the Arabic, see Th. 3.15. Inc.: ILLIS QUORUM habitationes loca sub polo ..., ms. \*\*Paris BN 9335, 25<sup>v</sup>-, and 5 others. *De spheris*, Latin by Plato of Tivoli from Arabic of Hunayn ibn Ishâq (Br. '98, 368) or of Qusṭa b. Lûqâ (Br. '98, 363). Inc.: SPERA EST FIGURA corporea una quidem superficie ..., ed. 1518 (June 30), with Sacrobosco, 91<sup>v</sup>, ms. \*\*Paris BN 9335, 1<sup>r</sup>, and 10 others. Another translation by Gerard of Cremona, inc.: SPERA EST FIGURA SOLIDA una tantum superficie ..., ms. \*\*Vatican Palat. 1351, 196<sup>r</sup>- and 5 others.

## PART I

## FIRST PERIOD

## 1.—Mâshâ'allâh [Messehalla]

Author: Mâshâ'allâh ibn Atharî al-Baṣrî, the Jew Joel or Joab, Manasse or Mebasser, active under al-Man'sûr and al-Ma'mûn about 770, died about 200/815. See Sartou 1.531, Br. '37, 391-392. For horoscopes of 791-794 see no. 3 below.

Works: one only of those here listed has been located in Arabic. Most are devoted to pure astrology and contain very little extraneous material. Original works may some day be identified and separated from the spurious attributions and doubtful ones by a study of the astrological content, which is very archaic.

Unidentified copies: Houzeau nos. 3797-3811, Zinner 7090-7150 (with few exceptions). The many alternate titles found for most works render the titles of practically no value for identification.

Sequence of works: I follow to some extent that proposed by Steinschneider in his *Eur. Übers.*, p. 49, and as suggested in several important manuscripts.

## 1. De compositione astrolabii

Text: The Arabic is not extant; see Steins. '05, 49, '06, 34-35, Sartou 1.531.

Significance: This work, along with the various tracts by or attributed to Ptolemy, is the fountainhead of mediaeval research in the use of instruments of observation. Gunther, in his edition (see below), has spoken of its importance in England.

## a. John of Seville

Text: The Latin by John of Seville has been interpolated with a number of consecutive passages in a different Latin style; no uninterpolated copies have yet been noted; the interpolations explain, for example, the mention of such later writers

as al-Battânî. Some mss. attribute parts of the text (e.g. pt. 2 chap. 17 seq.) to Iohannes de Gmunden, or speak of an abstract made by Simon Bredon (London Sloane 321), who is also said to have added a last chapter 'Putei profunditatem cognoscere.' For typical interpolations see edit. Gunther, pp. 202, 211, 215. On Iohannes de Gmunden see *Isis* 34 (1943), 196-205, and ms. Vienna 5277, 114<sup>r</sup>.

Contents: three parts: construction of the astrolabe, list of stars, and applications to analysis of celestial motions.

Collation: Gunther's edition is satisfactory though in no sense critical. Numerous variants appear on comparison with mss. Garrett 99, Erfurt 2° 376, and Madrid 10661.

### 1. Astrolabe

Title: De compositione astrolabii, Tractatus astrolabii editionis Messehalla.

Prol.: SCITO QUOD ASTROLABIUM est nomen grecum cuius interpretatio est acceptio ...

Cap. 1: In compositionem astrolabii et primo de preparatione matris. [Dixit Iohannes:] CUM UOLUERIS FACERE astrolabium ad cuiusque latitudinem regionis ... Fac tabulam pro matre ...

Expl. cap 16: ... ceteras longitudes regionis eiusdem tabule.

Inc. pt. 2 (cap. 17): De projectione spere in planum. CONCUSSIO SIUE EXTENSIO immo magis projectio ...

Expl. cap. 22: ... notam K, et nota illa erit polus zodiaci ut patet in hac figura.

Inc. pt. 3: De operatione uel utilitate astrolabii. Cap. 1. NOMINA INSTRUMENTORUM sunt hec. Primum est armilla suspensoria ad capiendam altitudinem et dicitur arabice al-hahucia ...

Expl. cap. 47: ... talis est comparatio ad planitiem si Deus uoluerit.

Editions: \*1512 (with G. Reisch, *Margarita philosophorum*), H2<sup>r</sup>-M4<sup>v</sup> (acc. to Gunther this text begins well then differs markedly)

1523, Paris; 1535, Basel; 1583, Basel (these acc. Houz. 3093)

1594, Venice (Italian translation acc. Houz.)

1872 (edit. of part 3 by Skeat acc. Gunther)

\*\*1929, Oxford, edit. R. T. Gunther (*Early Science in Oxford*, vol. 5, pp. 133-232, based on Cambr. li 3 3 and Ashmole 1796).

Manuscripts (usually identified merely by title or by the first incipit):

\*\*BALTIMORE Garrett 99, 13c, 1<sup>r</sup>-198<sup>r</sup>

\*BRUGES 522, 14c, 60<sup>r</sup>-74<sup>r</sup> (pts. 1, 3 at least); \*523, 13c, 79<sup>r</sup>-85<sup>v</sup> (pt. 1 seq.? expl.: ... scribe latitudinem regionis)

\*CAMBRIDGE Univ. li 3 3, 13c, 61-

DOUAI 715, 14c, 9-32 (a comm.? inc.: Utilitates tractatus astrolabii Mosalle ...)

\*DRESDEN 10661, 15c, 159<sup>r</sup>- (Concussio ...)

EINSIEDELN 29, 14c, 118<sup>r</sup>-120<sup>r</sup> (pt. 2?)

\*\*ERFURT 2° 376, 14c, 82<sup>v</sup>-95<sup>v</sup> (pts. 1-3); \*2° 394, 14c, 60<sup>r</sup>-67<sup>r</sup> (pts. 1-3); \*4° 349, 14c, 162<sup>v</sup>-172<sup>r</sup> (pt. 3 only); \*4° 355, 14c, 49<sup>r</sup>-62<sup>r</sup> (pts. 1, 3); \*4° 369, 14c, 184<sup>r</sup>-190<sup>r</sup> (pt. 1 seq.? expl.: ... faciendo ut prius); \*4° 382, 14c, 18<sup>v</sup>-20<sup>v</sup> (pt. 3); \*\*4° 386, 14c, 130<sup>r</sup>-150<sup>v</sup> (pts. 1-3 complete)

ESCURIAL O II 10, 13c, 69-71

\*FLORENCE BN J II 10 (S. Marc. 200), 13c, 189<sup>r</sup>-208<sup>v</sup> (end lost)

LONDON BM Royal 12 C 9, 14c; 12 C 17, 14c, 95-110; Arundel 268, pt. 8

MADRID BN 10009, 13c, 17<sup>r</sup> - (pt. 3)

MUNICH 353, 13c, 41-54; 572, 15c, 1-29; 588, 14c, 137-142; \*\*10661, 16c, 159<sup>r</sup>-160<sup>v</sup> (pt. 2); \*10662, 15c, 154<sup>r</sup>-157<sup>r</sup> (pt. 2); \*19689, 16c, 66<sup>r</sup> (-? pt. 2); \*19690, 16c, 108<sup>r</sup>-109<sup>r</sup> (pt. 2)

NAPLES Orat. 24 6 (Mand. 31), 13c, 133-177

OXFORD Ashmole 340 II 1; 361 pt. 4; 393; \*1522 pt. 10 (used for variants by Gunther); \*1796, 41- (pts. 1, 3, used by Gunther); Canon. misc. 61, 15c, 1-9; 340, 14-16c, 49-59; Digby 28, 14c, 212<sup>v</sup> (fragment); 207, 14c, 16<sup>r</sup>-21<sup>v</sup>; Merton 259, pt. 7

PARIS BN 7272, 14c, 45<sup>r</sup>-59<sup>v</sup> (pt. 3); 7336, 14c, 307<sup>r</sup>-320<sup>r</sup> (320<sup>r</sup>-327<sup>v</sup> = pt. 3); 7413; 7416B pt. 10

VATICAN 3099, 15c, 28<sup>r</sup>-32<sup>r</sup>; Barb. 3453, 14c, 57-; Ottob. 399, 15c, 144-; Palat. 1391, 15c, 195<sup>v</sup>-198<sup>r</sup> (pt. 2)

\*VENICE VIII 33 (XI, 106), 15c, 96-97 (pt. 2)

\*VIENNA 2367, 15c, 77<sup>r</sup>-196<sup>r</sup> (pt. 1- expl.: ... qua die accipere debet); \*2386, 14c, 1<sup>r</sup>-7<sup>v</sup> (pt. 1- expl.: ... retrogradi); \*\*5277, 16c, 110<sup>v</sup>-117<sup>r</sup> (pt. 2 expl.: ... de positione stellarum); \*5337, 14c, 120<sup>r</sup>-125<sup>r</sup> (Bredon: Modus fabricandi nouum quadrantem: Compositurus nouum quadrantem ... tibi profunditatem putei)

### 2. In reuolutionibus annorum mundi

Contents: prognostications especially regarding royalty.

Collation: Edit. 1549 contains very good copies of Mâshâ'allâh

nos. 2, 7, 4, 5, 3, prepared intelligently from good mss. by I. Heller, who appears to have 'improved' the style only in no. 7. Collation with mss. Vienna and, as far as the text continues, with ms. Paris 7282, shows few significant variants. The order of the texts here observed is based on manuscript evidence rather than on edit. 1549.

Inc.: CUSTODIAT TE DEUS et augeat tibi uitam [PATEFACIAM TIBI] sublimet te Deus [+ et patefaciam tibi] reuolutionem annorum mundi. Cuius scientia et dispositio est ut scias. QUANDO INGREDITUR Sol primum minutum signi Arietis ... Expl.: ... retrogradus grauabitur frigus et multiplicabuntur locuste, et si ei iunctus fuerit planeta, fortuna minuet et grauitate eius minuet [dictas grauedines].

Editions: 1484, omn. 1

\*\*1493/4, omn. 3, 149<sup>r</sup>-152<sup>r</sup>

1519, omn. 7

\*\*1549, omn. 12, B1<sup>r</sup>F2<sup>v</sup>

Manuscripts: \*Berlin 964 (2° 54), 15c, 177<sup>r</sup>-179<sup>v</sup>

\*Cambridge Trinity 1185, 16c, 98<sup>r</sup>-104 (inc.)

\*Dijon 1045, 15c, 71<sup>v</sup>-81 (inc. and expl.)

\*Lyon 329, 15c, 167<sup>r</sup>-172<sup>v</sup> (inc.)

Madrid BN 10053, 13c, 132<sup>r</sup>-136<sup>r</sup>

\*Paris Arsenal 880, 15c, 10-14<sup>v</sup>

\*\*Paris BN 7282, 15c, 38<sup>v</sup>-39<sup>v</sup> (Liber experimentarius, attrib. to Abû Ma'shar; expl.: ... iudiciis quia non curabis si Deus uoluerit)

Paris BN 7316, 76<sup>v</sup>-80<sup>v</sup>

Paris BN 7324, 14c, 52<sup>r</sup>

Vatican Palat. 1369, 15c, 111<sup>v</sup>-116<sup>v</sup>

\*\*Vienna 3124, 15c, 140<sup>r</sup>-145<sup>v</sup> (n.b. 144<sup>v</sup>: quam timebit uel ex infirmitate. Haly commentator supra quadripartito Ptholomei dicit: Cum autem sciuerit hoc, sciemus quod accidens eclipsis ... minuet)

### 3. De receptione planetarum siue de interrogationibus

Contents: answers to practical questions regarding enterprises and nativities; contains horoscopes, of which one was reproduced, reworded, by Bonatti, ms. New York Pub., 59<sup>v</sup>. Otto Neugebauer dates these horoscopes in spring, 791, and December, 794.

#### a. John of Seville

Collation: I have made a complete variorum collation of edit. 1493, 1549, and ms. Boston, revealing only trivial variants other than presence in the ms. (29<sup>r</sup> col. 2) of 300 words absent from the editions (inc.: Quoniam uniuersi astrologi multotiens

per astrolabia ..., immediately before the chapter on 'rex Africae'). I have also collated extensive samples from ms. Paris BN fr. 1083, a faithful translation.

Title: Incipit liber Messeahallach dictus de [+ coniunctionis (cognitionis) uel] receptione [-nis] planetarum et est de interrogationibus, quem transtulit Ioannes hispalensis de arabico in latinum.

Inc.: INUENIT QUIDAM UIR ex sapientibus librum ex libris secretorum astrorum de illis quorum [quos] thesaurizauerunt reges, exposuitque eum, et patefecit eius intentionem in omnibus ...

Expl.: ... Mercurius redibat ad Iouem et ipse erat leuior utrisque stellis, ideoque iungebatur ad hoc nutu Dei.

Sign.: Explicit liber M. in coniunctione et receptione cum auxilio Dei.

Editions: \*\*1484, Venice (omn. 1)

\*\*1493, Venice (omn. 3), 143<sup>r</sup>-148<sup>r</sup>

1519, Venice (omn. 7)

\*\*1549, Nuremberg (omn. 12), L4<sup>r</sup>-R3<sup>v</sup>

Manuscripts: \*Berlin 964 (2° 54), 15c, 157<sup>v</sup>-168<sup>r</sup>

\*\*Boston Publ. Lib. 1488, 14c, 21<sup>r</sup>-30<sup>v</sup>

Cambridge Pembroke 227, 14-15c, 284-291

Cambridge Trinity 1185, 16c, 104<sup>r</sup>-113

Cambridge Univ. Kk 4 2, 13c, 50<sup>r</sup>-55<sup>v</sup>

\*Erfurt 4° 361, 14c, 89<sup>v</sup>-94<sup>r</sup>

\*\*Erfurt 8° 83, 15c, 92<sup>v</sup>-108<sup>v</sup>

Florence Laur. S. Marci 194, 14c, 107<sup>v</sup>-114<sup>v</sup>

London BM Harley 13

Madrid BN 10009, 13c, 47<sup>r</sup>-55<sup>v</sup>

\*Madrid BN 10053, 13c, 77<sup>r</sup>-(not separated from 1.6 below)

Milan Ambros. 183 inf., 14c, 56<sup>v</sup>-64<sup>v</sup>

\*Oxford Digby 194, 15c, 128<sup>v</sup>-137<sup>v</sup>

Paris BN 16204

\*\*Paris BN franç. 1083, 14c, 171<sup>v</sup>-182<sup>v</sup> (in French)

\*Stalingrad Acad. Scien. AB-III, 13-14c, 70<sup>r</sup>-75<sup>v</sup>

\*Vatican Palat. 1369, 15c, 120<sup>r</sup>-127<sup>v</sup>

\*Venice San Marco 8-9 (11-103), 14c, 43-54

### 4. De significationibus planetarum in natiuitate

Contents: 26 (or 6) chapters on nativities by planets and houses in systematic series.

#### a. John of Seville

Collation: Edit. 1549 is excellent, ms. Vienna 3124 is complete and clear.  
Rubr.: Cap. 1 de Saturni significatione in suo aut alterius signo.



Inc.: CUM SATURNUS FUERIT [CUM FUERIT S.] in domo sua, opera eius erunt fortia et natus miscetur cum iis qui sciunt scientias, et si fuerit [+ natiuitas] in die, erit fortior ...  
Expl.: ... in seruiis etiam uulgi, et habebit bonum sensum et bonum consilium et finis operum eius bonus erit si Deus uoluerit.

Sign.: Explicit Messahalla de significatione planetarum.

Editions: 1493/4, omn. 3

\*\*1549, omn. 12, G4<sup>r</sup>-L2<sup>r</sup>

\*1551, omn. 14, pp. 115-118

Manuscripts: Florence Laur. Ashb. 132 (206/138), 15-16c, 59-61

\*\*Vienna 3124, 15c, 59<sup>r</sup>-67<sup>r</sup>

\*\*Vienna 10656, 16c, 46<sup>v</sup>-95<sup>v</sup> (preceded on 1<sup>r</sup>-46<sup>v</sup> by: De Saturno: Cum fuerit Saturnus in reuolutione uel in natiuitate ... In 12 ab inimicis et omnibus notemus (?) bene facit)

### 5. De cogitationibus ab intentione

Contents: interpretations of thoughts, location of lost objects; ms. Vienna 4773 noted below may be a different tract.

Collation: of parts of edit. 1549 with Paris fr. 1083, both apparently complete; ms. Digby contains the prologue and chap. 4; the prologue, quoting Dorotheus, suggests a later date.

Prol.: CUM ASTRORUM SCIENTIA difficilior cordetinus inspicienti habet ex compositione ... secreta ex doctrinis omnium philosophorum in unum breuiter collegi quem in 12 capitula compendiosa diuisi quorum primum docet de signatione interogationis.

Primum capitulum de significatione interrogationis hoc est de qua re interrogabit ...

Inc.: Precipuit Messahalla [+ ut]: CONSTITUAS ASCENDENS per gradum suum atque minuta et 12 domos certissimos [-me]. Et dixit quod interrogationes sint tribus modis. Primo [+ ut scias] qua de causa ...

Expl.: ... et iam exposuerit [-ui tibi] superius qualiter [quomodo] misceas [-ebis] significationes planetarum significationibus signorum.

Quartum capitulum de errore astronomi scilicet qualiter potuerit et quot modis astronomus errare. SCITO [+ ERGO] QUOD IPSIUS astronomi [astrologus] potuerit quatuor modis contingere. Primo cum fuerit astrolabium falsum accitioso [= tortuoso?]; secundo cum interrogator nescuerit inuestigare ... qui est principium et origo [radix] totius scientie qui sit benedictus in seculo.

Editions: \*\*1493, Venice (omn. 3)

\*\*1549, Nuremberg (omn. 12), L2<sup>r</sup>-L3<sup>v</sup> (expl. cap. 4: ... absque ratione quia si feceris raro rationem inuenies)

Manuscripts: Cambridge Trinity 1185, 16c, 118<sup>r</sup>

\*Berlin 964 (2° 54), 15c, 168<sup>r</sup><sup>v</sup>

\*\*Erfurt 2° 395, 15c, 134<sup>r</sup>-135<sup>r</sup>

\*Erfurt 4° 348, 14c, 88<sup>r</sup>-89<sup>r</sup> (Expl.: ... in tertio uel sextili intellige)

\*Erfurt 4° 361, 14c, 94<sup>r</sup>-95<sup>v</sup> (expl. = 1.9.3)

\*\*Florence Laur. S. Marci 194, 14c, 102<sup>r</sup><sup>v</sup>

\*Grenoble 814, 15c, 34-40<sup>r</sup> (French translation inc.: M. comanda que tu constitues ...; expl.: ... significacions des figures)

\*\*Madrid BN 10053, 13c, 86<sup>r</sup><sup>v</sup>

Munich 228, 14c, 267 (De interpretatione cogitationibus = ?)

Munich 588, 14c, 184-189 (Libellus interpretationum = ?)

\*\*Oxford Digby 51, 13c, 133<sup>v</sup>-134<sup>r</sup>

\*\*Oxford Digby 93, 15c, 186<sup>r</sup>-187<sup>v</sup>

\*\*Oxford Digby 149, 13c, 200<sup>r</sup>-201<sup>r</sup>

\*Oxford Digby 194, 15c, 127<sup>v</sup>-128<sup>r</sup>

\*Oxford Digby 228, 14c, 12<sup>v</sup>-13<sup>v</sup> (acc. cat. contains cap. 4)

\*\*Paris BN 7282, 15c, 39<sup>v</sup>-40<sup>r</sup>

\*\*Paris BN 16208, 13c, 51<sup>v</sup>-52<sup>r</sup> (expl.: ... temperatum manifeste d'e l'a)

\*\*Paris BN franç. 1083, 15c, 183<sup>r</sup>-184<sup>r</sup> (lacks prol. and chap. 4)

Vienna 2436, 14c, 134<sup>r</sup><sup>v</sup>

### 5a. De intentione et cogitatione

Title: suggests relationship to the above.

Inc.: CONSTITUAS ASTRONOMIAM per instrumentum ...

Expl.: ... beniuole respiciat scriptorem.

Manuscript: \*Vienna 4773, 15c, 45<sup>r</sup>-48<sup>r</sup>

### 6. De septem planetis

Contents: a short work in 9 chapters on the effects of each planet, etc., in ascendent, and in each house.

Text: The first chapter and that on Saturn appear separately as the work of Jirjis, to whom the whole tract is sometimes attributed (Vienna 5414). The variant in the incipit does not indicate a second translation.

Collation: Mss. Vienna and Florence 194 are good and complete, inc. and expl. are fully attested in other copies except as noted below.

Significance: quoted literatim by Leopold 7.19.1.

Title: Incipit tractatus Messahala de septem planetis in apparentibus et aliis domibus; et primo de Sole ...; De significatione planetarum in domibus.

Inc.: SOL CUM FUERIT in ascendente signatur principium [-atum] et sublimationem [-itatem] et regnum et magnitudinem

rerum. In secunda [Si fuerit in secundo signo ab ascendente signat] pulchritudinem esse et apparitionem dilectionis ...

Cap. 5: Saturnus cum fuerit in ascendente significat merorum causa debiti et terrarum. Et in secunda ablationem substantie et conturbationem amicorum ...

Expl.: ... et noli dubitare nec dimittas hec que dico tibi, et non proferas aliud quod quesieris [inuenies] si Deus uoluerit. Nam omnia ... esse cursum et uirtutem cuius est addere minuire obseruare destruere et mutare iuxta sensum placitum suum, cui sit gloria et grates secundum innarrabiles eius misericordias et sapientias potentias iustitias et uirtutes.

Edition: \*1509, omn 7

Manuscripts: \*Bruges 523, 14c, 16<sup>r</sup>-18<sup>v</sup> (expl.: ... si uero in deteriori uerte summam)

Cambridge Emmanuel 70, 15c, 69-71 (inc. Saturnus cum = cap. 5<sup>r</sup>, acc. TK 213)

\*Cambridge Trinity 1185, 16c, 188<sup>v</sup>-190 (Inc.: Saturnus in ascendente ... noli dubitare, attrib. to Jirjis)

\*Erfurt 4<sup>o</sup> 377, 14c, 14<sup>r</sup>-16<sup>v</sup> (expl.: ... et eorum domorum = Sahl no. 1)

\*Erfurt 4<sup>o</sup> 386, 14c, 27<sup>r</sup>-29<sup>v</sup> (expl.: ... ueritatem si Deus uoluerit)

Florence Borbon. VIII C 44 (acc. *Bibl. Math.* 1905, 237)

\*\*Florence Laur. Ashb. 206, 15c, 59<sup>r</sup>-61 (end not seen)

\*\*Florence Laur. S. Marci 194, 14c, 122<sup>r</sup>-124<sup>r</sup>

Ghent 416/15, 15c, 103<sup>v</sup>-105<sup>v</sup>

\*Madrid BN 10053, 13c, -84<sup>r</sup> (expl.)

Munich 3857, 13c, 5 (Liber dictus Gerdird)

\*Oxford Ashmole 393, 15c, 68<sup>v</sup>-69<sup>v</sup>

Oxford Canon. misc. 564, 15c, 15-18 (De significatione omnium planetarum in singulis domibus, attrib. to Thābit, inc.: SI SOL IN ascendente fuerit ...)

Paris BN 7316, 80<sup>v</sup>-82<sup>v</sup> (acc. Th.)

\*Vatican Palat. 1369, 13c, 83<sup>v</sup>-84<sup>v</sup> (SATURNUS CUM ... hiis que carent gaudio finis huius)

Vatican Palat. 1414, 14c, 174<sup>r</sup>- (acc. Th.)

\*\*Vienna 3124, 15c, 126<sup>r</sup>-128<sup>r</sup>

\*\*Vienna 5414, 15c, 133<sup>r</sup>-136<sup>r</sup> (expl.: ... quod quesieris si D. uol.)

\*\*Vienna 10656, 15c, 1<sup>r</sup> (cap. 5, revised and expanded)

## 7. De rebus eclipsium

Contents: 12 chapters, meteorology and astrology, in an attractive literary presentation; see *Bibl. Math.* 1905-06, 235 (listing 15 mss.).

Significance: quoted verbatim at length by John of Ashenden, see *Mod. Lang. Notes* 56, 1941, 352 (in his 2.5, edit. 1489, 16<sup>r</sup>).

a. John of Seville

Collation: I have collated in full edit. 1493 and 1551 with parts of ms. New York Kraus; the latter shows many important variants, the editions are both complete, similar, and adequate; edit. 1549 has been 'improved' stylistically.

Title: [Incipit] Epistula [liber + Messehalla] de rebus eclipsium [de eclipsibus + Lune] et coniunctionibus [De receptione; De testimoniis; De significatione] planetarum [Lune] in reuolutionibus annorum mundi.

Rubr.: De ratione circuli et stellarum et qualiter operantur in hoc seculo ...

Cap. 1: Dixit Messehalla: SCITO QUOD [QUIA; QUOD; QUONIAM] DOMINUS altissimus fecit terram ad similitudinem sperae et fecit circulum altiore in circuitu eiusdem uolubilem et posuit terram fixam et immobilem ...

Cap. 2: Dixit Messehallah: SCITO QUOD SIT planetis opus diuersum secundum diuersitatem climatum quia quibusdam climatibus fiunt ...

Cap. 3: De naturis signorum 12 et sunt in unoquoque 30° ...

Cap. 4: SI UIS [CUM UOLUERIS] scire quid accadat [+ in] mundo de pluuiis et uentis etc.: [Dixit Messahala] CONSTITUE ASCENDENS HORA introitus Solis in primum punctum [ipsum initium] Arietis et constitue planetas 7 ad eandem horam; et facta figura [+ domorum] considera ...

Cap. 5: Dixit Messahallah: OPORTET TE CONSIDERARE eclipses tam lunares quam solares et scire ascendens medii eclipsis ...

Expl.: ... malus malo, superabundauit malum nisi is qui prefuerit coniunctioni sit fortuna intellige. Et hoc est ultimum [nouissimum] eorum que protulimus in hoc libro et est ex secretis scientie astrorum.

Sign.: Et sic est completus [Et perfectus est iste] liber Messehalla translatus [+ a Iohanne hispalensi in Lunia] ex arabico in latinum sub laude Dei et eius auxilio.

Editions: \*\*1493, Venice (omn. 3), 148<sup>r</sup>-152<sup>r</sup>

1509, Venice (omn. 6)

\*1533, Basel (omn. 9)

\*\*1549, Nuremberg (omn. 12, reprint of 1493 with 'improved style'), F3<sup>r</sup>-G3<sup>v</sup>

\*\*1551, Basel (omn. 13, reprint of 1533), pp. 115-118

Manuscripts: \*Cambridge Trinity 1109, 15c, 99<sup>r</sup>-105

Cambridge, Trinity 1185, 16c, 118<sup>v</sup>-120<sup>v</sup>

\*\*Erfurt 2° 395, 14c, 126<sup>v</sup>-127<sup>r</sup>, caps. 1, 4-5 (defective)

(expl.: ... malus cum infortunio semper habundabit malus)

\*Erfurt 4° 361, 14c, 52<sup>r</sup> (begins with cap. 5)

\*Erfurt 8° 82, 13c, 186<sup>r</sup>-189<sup>r</sup>

\*Florence BN J II 10 (S. Marci 200), 13c, 233<sup>r</sup>-236<sup>r</sup>

\*Florence BN J III 28 (S. Marci 180), 14c, 73<sup>r</sup>-74<sup>r</sup>

\*Florence Laur. S. Marci 194, 14c, 101<sup>r</sup>-102<sup>r</sup>

\*Ghent 416(5), 15c, 56<sup>r</sup>-58<sup>r</sup>

\*Madrid BN 10012, 13c, 1<sup>r</sup>-2<sup>v</sup> (end defective?)

\*\*Madrid BN 10053, 13c, 84<sup>r</sup>-85<sup>r</sup>

Milan Ambr. A 183 inf., 14c, 68<sup>v</sup>-71<sup>r</sup>

Modena Estense 445, 3 360, 14c

\*\*New York, Kraus (dealer), 46<sup>v</sup> seq.

Oxford Canon. misc. 396, 14c, 88-93

\*\*Oxford Canon. misc. 517, 13c, 21<sup>v</sup>-23<sup>r</sup> (end lost)

\*\*Oxford Digby 51, 13c, 136<sup>r</sup>-137

\*Oxford Digby 97, 15c, 91-94

\*Oxford Digby 228, 14c, 75

\*\*Paris BN 7282, 15c, 33<sup>v</sup>-34<sup>v</sup> (cap. 2 to end)

\*\*Paris BN 7316A, 14c, 51<sup>r</sup>-52<sup>v</sup> (cap. 4 to end)

Paris BN 7328, 15c, 91

Paris BN franç. 1083, 15c, 171-183 (French translation)

Paris BN franç. 1353, 14c, 80 seq. (French translation)

Stalingrad Acad. Scien. AB-III, 13-14c, 76<sup>r</sup>-77<sup>r</sup> (sign.)

Vatican Barb. 303, 13c, 83<sup>v</sup>-87

\*Vatican Pal. lat. 1363, 15c, 102<sup>r</sup>-103<sup>v</sup>

Venice 8 74 (IX [or XI?] 107), 15c, 49-52

#### b. Another translation of same (?)

Title: De rebus et eclipsibus Lune et Solis.

Inc.: QUIA PRIMA CAUSA fecit terram perpetuam ...

Manuscript: Argentré 1755, 327 (TK 571)

#### 8. De motibus (De orbe)

Text: has been said to be the same work as *De rebus eclipsium*, but I have not compared the texts in detail.

Contents: traditional astrological practices with astronomical generalizations.

#### a. Gerard of Cremona (?)

Collation: of large parts of edit. 1546 with other texts by this author, indicating that this copy is complete and fully adequate.

Title: Liber Messehalach cum figuris in motibus totus astronomicus; In motibus liber cum figuris seu de scientia motus

orbis seu de elementis et orbibus; Liber totus astronomicus; De scientia motus orbis.

Rubr.: Liber in quo sunt cause orbis et motus eius in natura, editore Messehale.

Inc.: Sermo ... in motibus. INCIPIAM ET DICAM quod orbis est prescitus sphericus quem capiunt termini et diameter immisa...

Expl.: ... semini plante sicut creauit Deus omni rei semen cuius maiestas magna est, non est Deus nisi ipse gloriosus sapiens.

Sign.: Finit liber motus orbis et nature eius e dictione [editore] Messehalla.

Editions: 1504, Nuremberg (quoted in ZDMG 24.338)

\*\*1546, Nuremberg (omn. 11), B1<sup>r</sup>-K4<sup>r</sup>

Manuscripts: Basel F II 33, 14c, 57-63 (Liber motus orbis et nature eius)

Bologna Univ. 154/122, 14c, 31<sup>v</sup>-40<sup>v</sup> (acc. Th.)

Cracow 569, 14c, pp. 235-245

\*Erfurt 4° 330, 13-14c, 25<sup>r</sup>-33<sup>r</sup>

London BM Harley 13, part 22

Munich 234, 14c, 37-64

Munich 534, 14c, 16<sup>v</sup>-25

#### 9. De occultis

Text: the better known of two compilations (cf. no. 10 below), either the work of Mâshâ'allâh or one based primarily on his tracts, along with unidentified sections by Ptolemy and Dorotheus. Part I appears to be a second Latin translation of chap. 4 of *De cogitationibus* (no. 5 above); parts appear to be identical with no. 10 below, indicating that the compilation was based on existing Latin translations or that, for example, no. 10 is based on the present text.

Contents: prognostications concerning hidden objects, closely related to *Liber nouem iudicum* (see 16.1.23 seq., 16.1.56 seq.); compare Leopold 8.4.24 (ed. p. 147) and 8.7.11 (p. 159).

Collation: The mss. differ primarily in the order of the four parts, often transposed, and in absence of some parts, notably of part IV; a critical edition will be necessary to determine the exact content. Ms. Erfurt 2° 395 is defective, Digby 149 shows part IV abridged, Madrid 10053 and Paris 7282 and 16208 are complete so far as they are described below. I presume that ms. Digby 149 represents a formal revision, and Paris 7282 and 16208 another rearrangement of materials.

Title: De occultis; De inuentionibus occultorum.

I: SCITO QUOD ASPICIENS id est astrologus poterit errare quatuor modis. Primus modus est cum fuerit astrolabium falsum uel receperit umbram in loco inequali uel cum signo tortuoso. 2° cum interrogator nescuerit interrogare ...

Expl.: ... sit Lune penitus ab infortuna libera.

Expl. (Paris BN 7282, 16208: as end of work attributed to Jirjis, see 1.10.7): ... sepultum in loco si Deus uoluerit.

II: Dixit Ptolomeus: SI ASPEXERIT SIGNIFICATOR, ascendens erit genus rei occulte ex natura ascendantis, et si non aspererit ...

Comm. (Erfurt 4° 348, Digby 47, 149): SIGNATOR DE quo loquitur Ptholomeus non est ... (using lemmata).

Expl.: ... et ubicumque fuerit dominus hore, ibi erit res [res esse] intellige.

III. Dixit Dorotheus: CUM INTERROGATUS fueris de thesauro uel de alia re occulta, aspice signum septimum ab ascendente in quo ...

Expl.: ... et hoc occultabant antiqui sapientes astrologorum a ceteris qui in hac arte minus docti erant.

IV. De occultatione anuli, Dorotheus: CUM ALIQUIS occultauerit tibi anulum uel alium quodlibet aliud ...

Expl.: ... donec uenias ad locum occultationis et inuenies si Deus uoluerit.

Manuscripts: \*Boston Publ. Lib. 1488, 7<sup>v</sup>

\*\*Cambridge Pembroke 204, 15c, 114<sup>r</sup>v (IV + Dorotheus *De electionibus*)

Cambridge Trinity 1185, 16c, 113-116 (~117<sup>v</sup>? IV)

Cambridge Trinity 1307, 14c, 117<sup>v</sup> (IV)

Cambridge Univ. (acc. Houz. 939: IV)

\*\*Erfurt 2° 395, 15c, 134<sup>r</sup>-135<sup>v</sup> (I-IV-III, defective)

\*Erfurt 4° 361, -95<sup>v</sup> (... minus docti erunt)

\*\*Erfurt 4° 379, 13-14c, 19<sup>v</sup> (I-?-IV)

\*\*Madrid BN 10053, 13c, 85<sup>r</sup>v (I-III-II)

\*Montreal Osler 7513, 47<sup>r</sup>

Oxford Ashmole 393 pt. 16

\*\*Oxford Digby 149, 13c, 201<sup>r</sup>-202<sup>v</sup> (I-IV-III-II, parts abridged)

\*Oxford Digby 194, 15c, 138-140 (I-II-III)

\*\*Paris BN 7282, 15c, 40<sup>r</sup>-43<sup>r</sup> (I-II-III, end lost, expl.: ... sepultum in loco)

Paris BN 7316, 82<sup>v</sup>-83<sup>r</sup> (acc. Th.)

\*\*Paris BN 16208, 15c, 52<sup>r</sup>-53<sup>r</sup> (I-II-III)

\*\*Paris BN franç. 1083, 15c, 184<sup>r</sup>-186<sup>v</sup> (French translation, I-?-III)

Vatican Palat. 1354, 237<sup>v</sup>-238<sup>r</sup> (acc. Th.)

Venice 11-102, 14c, pp. 148-150

#### b. Associated Text

Rubr.: Incipit capitulum utrum occulta fuerunt in loco in quo dicitur esse. Cap. in scientia locorum, si aliquid fuerit in eis an non.

Inc.: CUM HOC UOLUERIS accipe altitudinem Solis uel stelle ...  
Expl.: ... angulo et ne sit Luna in signis demonum.  
Manuscript: \*\*Oxford Digby 149, 13c, 202<sup>v</sup> (after above)

#### 10. De occultis (expanded version)

Text: that of no. 9, verbatim, with added short chapters. In the present text, the expl. of pt. VII is that given in no. 9, pt. II, from mss. Paris 7282 and 16208 (not seen). The commentary for no. 9, pt. II, as given in the catalogue for Erfurt 4° 348, appears to be a different translation of that below, pt. IX. Collation: All mss. are complete and reliable as indicated, ms. Florence is the clearest to use.

I. Incipit libellus interpretationum ... Dixit Messehalla: SCITO QUOD ASPICIENS ... (= 9 I); expl.: ... filio infirmo et de reliquis 12 signis.

II. Capitulum in occultationem anuli siue alterius rei secundum Dorotheum. CUM ALIQUIS OCCULTAUERIT ... (= 9 IV)

III. Capitulum in quadrante hec est figura extractionis occultorum secundum regulam hyleg. PER EAM INUENIUNTUR occulta per quadrantem nutu Dei ... si casu cecidit.

IV. Aliud capitulum de inuentione CUM TE INTERROGAUERIT aliquis de re amissa siue occulta utrum inueniat ... ibi erit res intellige (cf. 9 II).

V. Tractatus Dorothei in occultis in qua parte sit. SI INTERROGATUS FUERIS ... (= 9 III); expl.: ... inuentionis illius rei.

VI. Alius modus inuentionis loci rei occulte. ASPICE UTRUM SIT planeta in septimo [septentrione ?] ... quarta erit si Deus uoluerit.

VII. Jirjis in occultorum inuentione. OBERAMUS (?) PARTEM REI occulte apud te fortune ... sepultum in loco si Deus uoluerit (= 9 I).

VIII. Sententia Ptolomei in occultis inueniendis. Dixit Ptholomeus: SI ASPEXERIT ... (= 9 II)

IX. Expositio auctoris quomodo terminus debet intelligi superius. SIGNIFICATOR ISTE quem dicit Ptholomeus non est dominus ascendens nec Luna neque ille ... de pregnatione et sic de ceteris.

X. Ad augmentationem quoque fortitudinis huius significationis alie auctoritates ... illum iudicantur. Et scito quia hoc est ex secretis astronomie et hec occultabant ... minus docti erunt (expl. = 9 III).

Manuscripts: \*\*Florence Laur. S. Marci 194, 14c, 102<sup>v</sup>-105<sup>v</sup> (followed by 12.20, inc.: Lucis creatorem obsecro ...)

\*\*Oxford Digby 47, 14c, 124<sup>v</sup>-127<sup>r</sup> (seen parts 2, 5, 8)

\*\*Oxford Digby 51, 13c, 133<sup>v</sup>-136<sup>r</sup>

## 11. Liber super annona (De motibus)

**Text:** perhaps related to Kitāb al-as'ār (Br. no. 3, i.e. *De mercibus*, a title given to the unidentified texts in mss. Paris BN 10269, 13014, 15123, and 16204). Cf. the incipit of 1.7.4 above.

**Contents:** 22 chapters on prognostications regarding buying.

**Collation:** mss. Cambridge and Erfurt are apparently complete, I have not seen the first folios of ms. Oxford, the remainder is good.

**Inc.:** ATTENDE [INTENDE + ERGO] AD HOC [EA] quod [que] dicam et secundum hoc operatio in quacumque uilla superius. Constitue ergo [igitur] bene alchahale id est ascendens et eius gradus ad horam ...

**Expl.:** ... hoc utile tantum emptori quod si [et cum] fuerit in ustiam [umbram?] quarta [quadra] erit [+ hoc] utile uenditori.

**Sign.:** Et sic finis Mesalla de abundantia rerum et caristia.

**Manuscripts:** \*\*Cambridge Emmanuel 70 (1.3.8), 15c, 147<sup>v</sup>-149<sup>r</sup> (followed in same hand by inc.: Facta figura communis t' prohibitionis ...)

\*Dijon 1045/116, 15c, 191<sup>r</sup>-195 (expl.: ... per secula seculorum)

\*\*Erfurt 4<sup>o</sup> 372, 14c, 56<sup>r</sup>-60<sup>r</sup>

\*\*Oxford Canon. misc. 517, 13c, -20<sup>r</sup> (inc. not seen)

Wolfenbüttel 2841, 15c, 378-380<sup>v</sup> (expl.: ... septimum ordinem secundum auenam (?))

## 12. Liber Messahalla de natiuitatibus

**Contents:** routine traditional nativities.

**Collation:** Ms. Paris is apparently complete; the text is followed (75<sup>v</sup>-76<sup>v</sup>) by the appropriate horoscopes.

**Inc.:** An sit puer ablatas aut non. Dixit Messehallah quod INTER OMNES LIBROS astronomie non prouenitur (?) ut hoc libro natiuitatum ...

**Expl.:** ... designat eum here bonum post decemientium (?).

**Manuscript:** \*\*Paris BN 7324, 15c, 73<sup>r</sup>-75<sup>v</sup>

## 13. De natiuitatibus

**Contents:** 14 chapters, otherwise not known.

## a. Hugh of Santalla

**Translator:** see Haskins, p. 76, who gives the complete prologue; the translation is dedicated to Bishop Michael of Tarragona.

**Title:** Libellus de natiuitatibus 14 distinctus capitulis Hugonis Sanctalliensis translatio. Prologus eiusdem ad Michaelem ...; Liber de nat. etsi apud nos Albumazar et Alheacib Alcufi

[al-Khasib al-Kufi] ex eodem negotio et nostre translationis studio plenissime habeantur ...

**Inc.:** QUAMUIS LIBRUM istum ex ordine a libro secretorum assumpto per 14 capitula diuidendum proposuerim ...

**Manuscript:** Oxford Savile 15, 177<sup>v</sup>- (acc. Haskins)

## 14. Liber iudiciorum

**Contents:** qualities of the planets (dry, etc.), prognostications - on travel, royalty, typical of Māshā'allāh's other works.

**Collation:** Ms. London is apparently complete, divided into chapters with rubrics.

**Inc.:** IN EXORDIO OMNIS creature herus uranicus inter cuncta sidera 12 maluit esse signa; determinam ea ceteris nuncupationibus. Et primum quod primo stabilium loco Arietem, secundo Taurum ...

**Expl.:** ... si septem ipsa die redire uoluerit sed numquam redibit.

**Manuscripts:** Cambridge Peterhouse 250, 15c, 63-70<sup>v</sup>

\*\*London BM Arundel 339, 14c, 36<sup>v</sup>-40<sup>v</sup>

Munich 458, 15c, 1-38 (same title)

## 15. In pluuiis et uentis epistola

**Contents:** meteorological predictions according to aspects.

**Translation:** attributed to John of Seville or to Drogon.

**Inc.:** Dixit Messehalla: INSPICE PLANETAS inferiores et partes suorum celorum ...

**Expl.:** ... quando descendet in casa aquea cito pluet.

**Edition:** \*\*1936, CCAG 10, pp. 210-216.

**Manuscripts:** Bern 483, 15c, 69<sup>r</sup>-70<sup>v</sup> (TK 213)

Paris BN 7316A, 69<sup>v</sup>-71<sup>v</sup> (acc. Th.)

Paris BN 10271 (acc. Th.)

Stalingrad Acad. Scien. AB-III, 13-14c, 152<sup>v</sup>-154<sup>v</sup> (edited as above)

## 16. De testimoniis Lune

**Text:** Secondary attribution to Albenahait (= Ibn Haytham?), position in the ms., and Latin style, associate this text with the *Liber nouem iudicum* (15.4), into which it was apparently introduced within Arabic.

**Contents:** prognostications according to lunar aspects.

**Title:** De testimoniis Lune et orientis domini, de receptione similiter pro negotiorum effectum discernendo.

**Inc.:** LUNA QUIA COLUMPNA stellarum et qui menestra (?) dicitur ab hac ad illam negotia et que rumorum ... Luna igitur ... Luna rursus ... Amplius stella ...

**Expl.:** ... loco ad quemlibet.

**Manuscript:** \*\*Erfurt 4<sup>o</sup> 372, 14c, 127<sup>v</sup>-134<sup>v</sup> (parts seen in film)

## 17. De stationibus planetarum

Title: De stationibus planetarum in natiuitate quando fuerint in suis domibus seu extraneis.

Manuscript: Vienna 10656, 16c, 46<sup>v</sup>-48<sup>v</sup>, 89<sup>r</sup>-95<sup>v</sup> (no other detail given in catalogue)

## 18. Capitulum Messehale de electionibus horarum ... et cyrurgia facienda

Expl.: ... gargarismum aut vomitum atque ascendens Aries aut Luna.

Manuscript: Erfurt (reference lost)

## 2.—Aṭ-Ṭabarī [Omar Alfraganus Tiberiadis]

Author: 'Umar Muḥammad ibn al-Farrukhān aṭ-Ṭabarī, Abū Bakr, son of Abū Ḥafṣ of Tabaristan, active in Bagdad, worked for al-Ma'mūn, died ca. 200/815-816. Known in Latin as above, and often as Omar, Adhomar, Tiberias, etc. See Br. '37, 392, Sarton 1.567, ZDMG 18.180. Mentioned by al-Qifṭī as translator of Dorotheus, who is one of his favorite sources (no study has been made of this matter, see under Dorotheus).

### 1. De natiuitatibus

Text: probably the Kitāb fiya min al-kitb ... ms. Escorial (Derenb.) 922, in 140 chapters, Krause p. 445 (K. fi'l-mawālīd); or the Risāla fī aḥkām an-nujūm. So far as can be determined, all other tracts attributed to him in Latin are either spurious or fragments of this work.

Contents: predictions on nativities through formal rules, pure astrology, interesting solely for the numerous quotations from Dorotheus and Māshā'allāh; those from al-Qabī'sī (died 967) and al-Battānī (fl. 900) must be interpolations.

Significance: repeatedly quoted by Arabic and Latin writers, and esteemed second only to the work of Māshā'allāh and of Abū Ma'shar. One point of value was probably the presentation of the doctrines of Dorotheus.

#### a. John of Seville (1127)

Collation: Incipit and explicit are fully corroborated. Edit. 1551 appears, after frequent comparisons with later Arabic astrologies, to be a complete and authentic edition, with interpolations as mentioned above, which are rare. The text, however, is not divided convincingly into chapters, nor does it follow any clear and objective sequence of materials.

Inc.: Dixit Omar ben Alfragani Tiberiadis: SCITO QUOD DIFFINITIONES [diuisiones, destructiones] natiuitatis [-um] in interrogationibus [in nutritione] sunt quatuor, una scilicet eorum que non gustant cibum ...

Expl.: ... directio est primus gradus Arietis et diuisor Iupiter.

Sign.: Perfectus est liber [+ uniuersus + de natiuitatibus] Omar ben Alfarghani Tiberiadis cum laude Dei et eius auxilio [adiutorio], quem transtulit Iohannes hispalensis atque lunensis de arabico in latinum.

Sign. (edit. 1515): ... translatus a magistro Salomone in latinum adiuuante filio Abaumet iudeo probo uiro currente anno ab incarnatione Christi 1217 indictione 5 tertio die intrante Augusto annis arabum 613 et menses 4 annis 14 ultimo die mensis qui est rabe secundus.

Editions: \*1503, Venice: Sessa, 32 fols.

\*1509, Venice (omn. 6)

\*1515, Venice: Giunti, edited by Lucas Gauricus

\*\*1524, Venice (omn. 8), fol. 1-20

1533, Basel (omn. 9)

\*\*1551, Basel (omn. 14), pp. 118-141 (expl.: ... tempus in hora nati si Deus uoluerit)

Manuscripts: \*Cambridge Emmanuel 70, 15c, 150<sup>v</sup>-151<sup>r</sup> (extract)

\*Cambridge Univ. Kk 4 2, 13c, 56-64

\*Dijon 1045, 15c, 2<sup>r</sup>-71<sup>v</sup>

\*Erfurt 4° 330, 13-14c, 69<sup>r</sup>-84<sup>v</sup> and 106<sup>r</sup>-108<sup>r</sup>

\*Erfurt 4° 365, 13-14c, 100<sup>r</sup>-119<sup>v</sup>

\*Florence BN J II 10 (S. Marci 200), 13c, 119<sup>r</sup>-140<sup>v</sup>

\*Florence BN J III 28 (S. Marci 180), 14c, 67<sup>r</sup>-73<sup>r</sup> (inc. lost)

\*Florence Laur. S. Marc 194, 14c, 125<sup>r</sup>-135<sup>v</sup>

\*Madrid BN 10053, 13c, 136<sup>v</sup>-141<sup>v</sup>

\*Oxford Digby 194, 15c, 114<sup>r</sup>-127<sup>v</sup>

\*Prag 1466, 15c, 1<sup>r</sup>-26<sup>v</sup> (part of sign.)

Vatican lat. 4082, 140-152

Vatican Palat. 1363, 15c, 101<sup>rv</sup> (*Iudicia Lune*, see TK 458)

\*Vienna 2436, 14c, 85<sup>v</sup>-100<sup>v</sup>

\*Vienna 3124, 15c, 32<sup>r</sup>-42<sup>r</sup> (no sign.)

\*Vienna 5442, 15c, 224<sup>v</sup>-244<sup>v</sup>

Vienna 10745, 3<sup>v</sup>-8<sup>v</sup> (Omar on nativities, inc.: Distinguo primo ...)

### 2. De iudiciis astrorum

Text: has the same incipit as 16.1.2.

Title: Liber Adhomarbenab Fragani de iudiciis astrorum.

Inc.: QUONIAM TOTIUS astronomie ...

Manuscript: \*Dijon 449, 15c, 25<sup>r</sup>-34

## 3.—Sahl [Zahel Benbriz]

Author: Sahl b. Bishr b. Ḥabīb b. Ḥānī (or Ḥāyā) al-Isrā'īlī, Abū 'Uthmān, a Jew, active in Khurāsān, died between 207/822 and 236/850; see Br. '37, 396; Sarton 1.569, *ZfM* 16.389, *Bibl. Math.* 8.41, Th. 2.390, Nal. 1.lxxvii.

Works: Of the five principal titles given below, the first two or three certainly form a corpus, at least in Latin and in ms. Leipzig arab. V 799, and the last two may also belong to a truly fixed sequence. Since cataloguers have not examined the contents of the manuscripts with this in mind, the sequence has not been noted, and the explicita are the only indication of the presence of the later tracts. Grouping the shelf numbers of the manuscripts in a single list offers therefore several advantages. The remaining works attributed to Sahl may well be, like nos. 7-8, other translations of parts of this corpus.

Significance: aside from direct allusions to nos. 1 and 2 below, the influence of and quotations attributed to Sahl have not yet been traced to single works. It should be noted that both the corpuses of *Liber nouem iudicum* take their form from Sahl's division of subject matter according to the twelve houses.

Collation: Tracts nos. 1-5 are found in good and complete form in edit. 1493 and 1509; ms. Florence 194 must be emended for omissions on 74<sup>r</sup> and Vienna 5438 at the end.

## 1. Introductorium

Arabic: Kitāb fi 'l-aḥkām 'ila 'n-naṣabah al-falakiyah, or Al-majmū' fi 'l-aḥkām, or Al-mudkhal fi aḥkām an-nujūm (Br. no. 7), mss. Escorial (Deremb.) 919, Leipzig 799, etc. V. Stegemann, in his "Dorotheus ... und ... Sahl ...," *Monographien des Archiv Orientalni* 11 (Prag, 1942), gives a résumé and extracts of tracts 1-3, in Arabic, with Latin excerpts.

Contents: influences of the signs of the zodiac; quotations from Hermes, Theophilus, Ptolemy's *Quadripartitum*, Dorotheus, and Māshā'allāh. The definitions of sixteen astrological terms shows exceptionally clear Latin transliteration of Arabic words.

Title: Introductorium ad astrologiam seu de iudiciis [de principiis iudiciorum] seu de interrogationibus.

Invoc.: In nomine Dei pii et misericordis dixit Zahel Benbriz ysmaelita [isr-]:

Inc.: SCITO QUOD [CUM] SIGNA sunt 12 [4 et] ex eis sex [+ sunt] masculina et sex feminina. Aries ergo est signum masculinum ex signis diei, et Taurus femininum ...  
Expl.: ... diuersitatem horum planetarum et eorum domorum.

## 2. 50 precepta

Text: The incipit and the number of chapters suggests a relationship with ms. Escorial arab. (Deremb.) 918; follows above in ms. Leipzig V 799 (Stegemann, *loc. cit.*, p. 21). Note a second Latin translation below, no. 6.

Inc.: SCITO QUOD SIGNIFICATRIX id est Luna cuius circulus est omnium planetarum circulus et uidetur terre pre omnibus planetis et similior est rebus mundi. Nonne uides ...

Prop. 50: Scito quod planeta cum iungitur Lune signat quod ... horrens causam de quo interrogat grauis non erit illi scito [sata] hoc totum [+ et intellige].

## 3. De iudiciis (de interrogationibus)

Contents: routine judgments; see Stegemann, p. 25.

Rubr. (Florence 194): Iudiciorum arabum liber incipit et primum de modo questionis.

Inc.: CUM INTERROGATUS FUERIS de aliqua interrogatione, incipies aspicere sicut predixi tibi. Iam enim constituti in omni re motum a qua accipitur ...

Cap.: Obsessus dicitur planeta cum fuerit [Expositio obsessi planete est ut sit] inter duos malos ...

Expl.: ... eius dominus fuerit impeditus destruitur omne quod pertinet ad eandem domum et omnes res eius [illius].

## 4. De electionibus

Arabic: presumably Kitāb al-ikhtiyārāt, Escorial (Deremb.) 919; 43 chapters, rules for choice of time to act; useful details on technologies and medicine. Quotes Māshā'allāh and Dorotheus. Also attributed to Ptolemy and to Māshā'allāh. See Steins. '06, 35.

Inc.: OMNES [+ SAPIENTES] CONCORDATI sunt [+ philosophi] quod electiones sint debiles nisi in diuitibus habent enim isti, licet debilitentur eorum lectiones radices ...

Last Cap.: Cum uolueris scribere epistolam ... non retrogradus nec impeditus, sintque ipse et Luna mundi a malis.

## 5. Liber temporum

Contents: prognostications on times to travel, write letters, etc.

Inc.: SCITO QUOD TEMPORA contingunt ex motibus ergo cum incipienti ...

Expl.: ... exposui tibi et tunc inuenies tempus et non errabis in depositione regis si Deus uoluerit.

Editions: \*1484, Venice (omn. 1) : 1, 5 (?)

\*1493, Venice (omn. 3) : 1 = 122<sup>v</sup>-126, 2 = 126, -3-, 5 = 129<sup>v</sup>-132<sup>r</sup>, 4 = 138<sup>v</sup>-141<sup>v</sup>, expl.: ... multi peribunt fame.

\*1509, Basel (omn. 6) : contents = omn. 3.

\*\*1513, Paris: J. Lambert : 4

\*1519, Venice (omn. 7) : 1 = 111-; -3-4-, -125<sup>r</sup>

\*1533, Basel (omn. 9) : 4

\*1551, Basel (omn. 13) : 4 = 102-114

Manuscripts: \*Berlin 963 (2° 192), 14c : 1 = 164<sup>r</sup>(-191<sup>r</sup>?)

Berlin Landberg 221, 18c

Boston Publ. Lib. 1488, 14c : 1 = -87, 4 = 87<sup>r</sup>-98

\*Cambridge Trinity 1185, 16c : 3 = 146<sup>v</sup>-168<sup>r</sup>, 1 = 168<sup>r</sup>-(-2-3-?)173, 4 = 173<sup>v</sup>-180<sup>r</sup>(-185<sup>r</sup>)

\*Dijon 449, 15c : 1 = 34<sup>r</sup>(-2-3-?), 4-5 = 47<sup>v</sup>-51

\*\*Erfurt 4° 174, 14c : 2 = 106<sup>v</sup>-107<sup>v</sup> (expl. 108<sup>v</sup>: ... erit tempus reversionis)

\*Erfurt 4° 223, 14c : 1 = 117<sup>r</sup>-154<sup>v</sup> (expl.: ... quam comprehendere possunt)

\*Erfurt 4° 361, 14c : 1 = 96<sup>v</sup>-, 5 = -113<sup>v</sup>

\*\*Erfurt 4° 363, 13-14c : 4 = 84<sup>r</sup>-89<sup>r</sup> (expl.: queritur iussu Dei)

\*Erfurt 4° 377, 14c : 1 = -16<sup>v</sup>

\*\*Erfurt 8° 83, 14c : 4 = 76<sup>v</sup>-87<sup>r</sup>, 5 = 87<sup>r</sup>-92<sup>v</sup>

\*Erfurt 12° 18, 14c : 1 = 43<sup>r</sup>-52<sup>v</sup>, 2 = 53<sup>r</sup>-58<sup>r</sup>

\*Florence Laur. pl. 30 cod. 17, 13c, 71 fols.

\*\*Florence Laur. S. Marci 194, 14c : 1 = 69<sup>r</sup>-70<sup>v</sup>, 2 = 70<sup>v</sup>-72<sup>r</sup> (expl. 74<sup>r</sup>: ... casum et pauperitatem), 3 = 75<sup>r</sup>-87<sup>v</sup>, 4(-5?) = 96<sup>r</sup>-100<sup>r</sup>

Grenoble 814, 15c, 40<sup>v</sup>-66 (French translation) : 1-

\*\*London BM Sloane 2030, 14c : 1 = 41<sup>r</sup>-, -5 = 76<sup>v</sup>

London BM Harley 267, no. 11 : 4

\*Lyon 328, 14c, 21<sup>v</sup>-47

\*Madrid BN 10009, 13c : 3 = 125<sup>r</sup>-128<sup>v</sup> (end lost?), 4 = 209<sup>r</sup>-213<sup>v</sup> (expl.: ... fiunt ex hiis motibus)

\*Madrid BN 10012, 13c : 1 = 49<sup>r</sup>-66<sup>v</sup>, 4-3 = 66<sup>v</sup>-121<sup>v</sup>

Madrid BN 10053, 13c : 4 = 45<sup>v</sup>-56<sup>v</sup> (end lost)

\*Madrid BN 10063, 13c : 1 = 32<sup>r</sup>-33<sup>v</sup>, 2 = 33<sup>v</sup>-34<sup>r</sup>, 3 = -40<sup>r</sup>

Munich 51, 15-16c, 61-99 (n.b. Zinner indicates Munich 130, 189, and 588)

Munich 228, 14c, 30-47 (Iudicia = ?)

Munich 458, 15c, 1-38 (Liber iudiciorum = ?)

Munich 2481 : 5 = 53<sup>r</sup>-58<sup>r</sup> (TK 653)

Oxford Canon. misc. 396, 14c, 2-41

\*Oxford Digby 47, 14c : 4-5 = 68-78

\*\*Oxford Digby 72, 14-15c : 1 = 51<sup>r</sup>-58<sup>r</sup>, 2 = 58<sup>r</sup>-60<sup>v</sup>

\*Oxford Digby 194, 15c : 4-5 = 140<sup>r</sup>-145<sup>r</sup>

Paris BN 7329, 14c : 4 = 40<sup>r</sup>-45<sup>r</sup> (end lost?)

Paris BN 16204, 13c (and/or olim Sorb. 980)

Paris BN franç. 1083, 15c (French translation), 189 seq.

Soest Stadtb. 24, pt. 12, 13c

Stalingrad Acad. Scien. AB-III, 13-14c, 48<sup>r</sup>-69<sup>v</sup>(1-, -5)

\*\*Vatican 1369, 15c : 5 = 129<sup>v</sup>-132<sup>r</sup>(expl.: ... non errabis in depositione regis si Deus uoluerit), 4 = 132<sup>r</sup>-137<sup>r</sup>

Vatican 4085: 3 = 9-10

Vatican Palat. 1368, 15c : 2 = 37<sup>r</sup>-38<sup>r</sup>

Venice 11-103 (8-9), 14c : 2 = 59-61

Venice 11-104, 14c, 117-154 (TK 652)

Vienna 3124, 15c, 21<sup>r</sup>-30<sup>v</sup>(title only: TK 690)

\*Vienna 5414, 15c : 1-(?) = 99<sup>r</sup>-132<sup>v</sup>

\*\*Vienna 5438, 15c : 1 = 176<sup>r</sup>-184<sup>v</sup>, 2 = 184<sup>v</sup>-188<sup>v</sup>, 3 = 188<sup>v</sup>-208<sup>v</sup> (expl.: ... de hiis que exposui tibi in hoc libro)

## 6. Liber introductorius

Text: the 50 precepta, no. 2 above, perhaps revised, preceded by a prologue.

Prol.: OMNIBUS [A] PLANETIS erraticis que feruntur in signis non quod sint in eis sed quia feruntur sub eis hoc est in directo eorum altiorum prior circulo signorum. Et cursu tardior est Almicatil id est Saturnus deinde Almustain id est Iupiter deinde Almerreg id est Mars ... descripsimus eos in tabula sequenti ut leuius esset opus [followed by tables].

Capitulum termini egyptiorum qui dicuntur Hermetis. DE TRIPLICITATIBUS et differentiis eorum uidetur non proponere demum. Triplicitates terminis eo quod ... diuersitatem horum planetarum et eorum domorum [= expl. no. 1].

Book 2: Incipit secundus in quo distinguuntur 50 capitula. Primum capitulum de principalitate significationis ... SCITO QUOD significatrix ... [= no. 2]

Editions: 1484, Venice (omn. 1)

\*\*1519, Venice (omn. 7), 112-113

Manuscripts: Berlin 964 (2° 54), 15c, 213<sup>r</sup> (fragment)

\*Madrid BN 10009, 13c, 118<sup>r</sup>-125<sup>r</sup> (Prol.-1?-2-3, end lost)

\*Oxford Digby 47, 14c, 19<sup>r</sup>-29<sup>r</sup> (inc. only)

\*Paris BN 16208, 13-14c, 26<sup>v</sup>-29<sup>v</sup> (-33<sup>v</sup>?) (inc. seen)

Zurich B 244 (769), 15c, 45<sup>r</sup>-50<sup>v</sup> (acc. Nal. 1.1xxvi)

## 7. De 50 preceptis

Text: apparently another translation of no. 2 above; it appears in a body of fragments of the *Liber nouem iudicium* (see 15.4) in Erfurt 4° 372 and probably by the same translator.

Collation: ms. Oxford is apparently complete and correct.

Inc.: HACTENUS DE CIRCULI partitionibus stellisque cum ualido rerumque ...



Prec. 50: Locus est quod signum firmum bifidis et dupliciter inuoluit. Hiis executis ... querentem requisita non parum grauari significat.

Manuscripts: \*Erfurt 4° 372, 14c, 135<sup>v</sup>-139<sup>v</sup>

\*\*Oxford Digby 47, 14c, 100<sup>r</sup>-104<sup>r</sup>

#### 8. De significatione temporis ad iudicia

Text: has been associated with Al-awqât, ms. Berlin 8° 2591, pt. 2; TK identifies it with no. 5 above without explanation.

Inc.: SCITO QUOD TERRA excitat motus. Fit igitur initium

motus quod fit in circulo usque in finem temporis ...

Editions: \*1493, Venice (omn. 3), 141<sup>v</sup>-142<sup>v</sup>

1519 (omn. 7)

1547 (acc. TK 653)

1551 (omn. 14?)

#### 9. Liber temporum

Contents: not known.

Inc. (Dijon): SCITO QUOD MUTATIO ...

Inc. (Oxford): DE EO QUOD NON sit in 12 signis et ...

Sign.: Explicit liber Zahel Benbris israelita translatus a magistro Iohanne ispalensi Deo gratias.

Manuscripts: \*Dijon 449, 15c, 51<sup>r</sup>-53

\*Oxford Canon. misc. 396, 14c, 83<sup>v</sup>-88

#### 10. Fatidica (Prognostica de reuolutionibus)

Text: see Steins. '05, 34, Th. 2.391.

Contents: judgments by houses, winds, etc., effects by planetary qualities and signs of the zodiac.

##### a. Hermann of Carinthia (1138)

Translation: attributed to Bernard Silvester in mss. Digby 46 and Ashmole 304. This double attribution, and other facts common in works translated by Hermann, suggest that the original may have been revised or rewritten.

Collation: Ms. Cambridge Univ. appears to be complete, with details noted below confirmed in other starred copies.

Title: Incipit Zahelis arabum de interpretatione diuersorum euentuum secundum Lunam in 12 signis zodiaci. —Liber sextus astronomie.

Inc.: SECUNDUS POST CONDITOREM orbis moderator Sol ut superne ducatum potentie ita omnium (?) inferioris mundi accidentium principale erit consilium ...

Expl.: ... appresse minus fuerint efficaces.

Sign.: Explicit Fatidica Zael ... translatio ... Hermani G<sup>i</sup> ... 1138 3 kal. Octobris translatus est.

Editions: \*1592, Prag

Manuscripts: Basel F III 8, 44<sup>r</sup>-48<sup>v</sup> (attrib. to Hermes or Rijâl)

\*Berlin 965, 16c, 1-63

Cambridge Caius 110, 295

Cambridge Pembroke 227, 133

\*\*Cambridge Univ. Kk iv 7, 15c, 107<sup>r</sup>-119<sup>r</sup> = (?) 102<sup>r</sup>-115<sup>v</sup>

London BM Harley 80

London BM Sloane 3847, 17c, 101-112

\*Metz 287, 15c, 333-350

\*Oxford Digby 114, 14c, 176<sup>r</sup>-199

Vatican Palat. 1407, 18-38

#### 11. De prognosticis

Contents: prognostications; quoting Plato, Theodosius, Doronius.

Collation: The ms. is clear and apparently complete.

Title: De prognosticis accidentibus partibus mundi in anno secundum diuersitatem 12 signorum per cursum Lune in mense Iulii.

Inc.: Patronus dicit: SI UIDERIS LUNAM in Ariete in 18 die Iulii anno illo per maiorem partem anni uidebis uentum australem ...

Cap. 2: De Tauro: Patronus dicit: Si uideris Lunam in Tauro in 18 die Iulii illo anno erunt uenti septentrionales ...

Cap. 3: Theodosius dicit: Si uideris Lunam in 18 die ...

Expl.: ... rex apparebit magnus unde omnes homines erunt multum irati.

Manuscript: \*\*Escorial e III 4, 14c, 1-5

#### 12. Introductorium

Text: perhaps several tracts joined together in the ms. (e.g. fol. 76<sup>r</sup> and 83<sup>v</sup>); compare the explicit with al-Kindî no. 4 below.

Contents: horoscopes and diagrams with explanations; quotations from Ptolemy.

Inc.: FORTIOR OMNIBUS LOCIS circuli est AS et hoc signum dignius est omnibus signis ...

Juncture, fol. 83<sup>v</sup>: ... domino partis non facient moras q<sup>i</sup>n.

SCITO QUOD omnipotens creauit mundum et omnia que ...

Expl.: ... non consideres signum finis in unoquoque anno in quo firdarie Saturni et Iouis, et considera etiam firdarie sicut prediximus in libro mundi.

Manuscript: \*\*Erfurt 4° 363, 13-14c, 75<sup>v</sup>-84<sup>r</sup>

#### 13. Prouerbia Zaelis

Inc.: IN IUDICIIS EST primum ducatus ...

Manuscript: \*Ghent 416/5, 15c, 65<sup>r</sup>-67<sup>r</sup>

#### 14. Liber magnus sigillorum Zahel

Text: see Th. 2.390, 399-400, *Mél. Pelzer* 261-262; magic seals.

Inc.: SI INUENERIS in lapide sculptum ... (TK 670)

15. Zael libri sigillorum filiorum Israel quem fecerunt in deserto

Text: see Th. 2.389-390, 399.

Inc.: CUM PLURIBUS libris nobilibus magne ... (TK 153)

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Al-Khwārizmī

16. Carmen de planetarum aspectibus

Inc.: ASPECTUS LUNE et Mercurii sextilis ...

Manuscript: Oxford Canon. misc. 255, 15c, 59-63<sup>v</sup> (TK 65)

#### 4.—Al-Khwārizmī [Alcoarismi]

Author: Abū 'Abd Allāh Muḥammad b. Mūsā al-Khwārizmī, worked under al-Ma'mūn (813-833), died after 232/846; used Greek and Indian materials; see Br. '98, 216, '37, 381-382, Sarton 1.563-564, Kennedy no. 21. His most important works, unknown in Latin, deal with geography.

##### 1. Astronomical tables

Text: Kitāb az-zīj, tables with canons for their use; the astronomical constants differ from those used by az-Zarqālī. The Latin is based on a revision made by Maslama ibn Aḥmad al-Majrīṭī; there is said to be a Latin translation of a commentary by an-Nazīrī; see Haskins 22, 123.

Significance: the fountainhead of Arabic astronomical tables and rules for their use.

##### a. Adelard of Bath, 1126 (?)

Text: Bjørnbo, in his edition, does not distinguish clearly between the original and a revision made by Robert of Chester; the Chartres and Mazarine manuscripts presumably contain this revision.

Collation: Edit. 1918, which I have used repeatedly, is an excellent and authoritative text.

Title (of the revision?): Incipit liber Ezeig id est chanonum Alghoarizmi per Adelardum ... et per Robertum cestrensem ordine digestus.

Prol.: Liber iste septem planetarum atque draconis statum continet a meridie quarte ...

Inc.: ANNUS IGITUR ARABUM secundum Lune cursum consideratur. Id enim tempus ... Posita itaque in hoc uolumine ab Elkaurezmō examinatio ...

Expl.: ... radiatio ipsius stelle. Pro rumoribus ... non firmis fuerint rumores affirmant uel infirmant.

Sign.: ... anno ab incarnatione domini 1136 die Ianuarii 26 ... annus autem arabum 520.

Edition: \*\*1918, Copenhagen, by A. Bjørnbo and R. Besthorn (*Det kong. Danske Vidensk. Selskabs Skrifter*, vol. 7, pt. 3).

Manuscripts: \*Chartres 214, 12c, 41<sup>r</sup>-102

\*Madrid BN 10016, 13c, 8<sup>r</sup> (-69) (end lost; revision by

Robert of Chester acc. Millás, *Trad.*, 248)

Oxford Bodl. Auct. F I 9, 12c, 99<sup>v</sup>-159<sup>v</sup> (not revised)

Oxford Corpus Christi 283, 113-144 (incomplete)

\*Paris Mazarine 3642, 82<sup>r</sup>-87 (incomplete)

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First Period

##### 2. (Algebra)

Text: see *Bibl. Math.* 1905-1906, 239-248, Sarton 1.563-564, and remarks in Karpinski's edition. Boncompagni's *De numero indorum*, Rome, 1857 (cf. Br. '37, 381, no. 2), is a different work.

Significance: one of the best-known Arabic algebras, frequently quoted by Latin writers.

##### a. Robert of Chester (1145)

Collation: Edit. 1915 is probably definitive; the mss. are described and the algebraic procedures analysed.

Prol.: Dixit Mahomet: Laus Deo creatori ... CONSIDERANS ENIM omne id quo indigent ...

Expl.: ... alchemon id est pars homini contingent. Hoc igitur ... agendum erit.

Sign.: Finis libri ... quem Robertus Cestrensis ... transtulit ... 1183.

Appendix (rules): Prima: quando numeris assimilantur ZE ... proportionalium quantitatem.

Edition: \*\*1915, New York, by L. C. Karpinski (from four mss.)

##### b. Gerard of Cremona, or William de Lunis

Collation: made with the above by Karpinski, who found that edit. 1857 was better than edit. 1838, and that the present translation was better than that by Robert.

Text: Edit. 1850, published as Gerard's translation, shows different incipit and expl. as below.

Prol.: Hic post laudem Dei et ipsius exaltationem ... QUISQUIS IN QUATUOR matheseos disciplinis efficacius uult proicere numerorum rationes ...

Cap. 1: UNITAS EST ORIGO et prima pars [edit. 1850: Unitas est principium numeri] ...

Expl.: ... necessario quatuor remanent [edit. 1850: ... regulis inveniatur solutio].

Editions: 1838, Paris, by Libri, in his *Hist. des Sci. Math. en Italie*, 1.253-289.

\*\*1850-1851, in *Atti dell'Accademia pont. de' nuovi Lincei*, ser. 1, vol. 4, pp. 412-435

c. John of Seville

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Banû Mûsâ

Text: introduction and five books; Haskins, p. 24, claims this translation for Adelard of Bath.

Prol.: QUONIAM DE QUARTA introducendis matheseos nos fari disciplinarum presens ...

Expl. book 3: ... integra reducantur ut possunt.

Expl.: ... celeritate finitur ut patet Deo gratias.

Edition: \*\*1898, by M. Curtze, *Abh. zur Gesch. d. Math.* 8, 17-27, books 1-3 only

Manuscript: \*\*Paris BN 16208, 12c, 67<sup>r</sup> seq. (end not seen)

### 5.—Banû Mûsâ b. Shâkir [Filii Moysi filii Sekir]

Authors: three brothers, Muḥammad (died 259/873), al-Ḥasan, and Aḥmad, active under al-Ma'mûn; see Br. '37, 382-383, Sarton 1.560-561, *Bibl. Math.* 1887, 44-48, 71-75, and 1902, 259-272 (detailed analysis of content).

#### 1. De sphaera in plano describenda

Arabic: Ma'rîfat musâḥat al-ashkâl al-basiṭa wa 'l-kuriya, mss. Berlin 258, Krause p. 448, Paris BN 2467; the text is said to have been reworked by aṭ-Ṭûsî.

Contents: geometric propositions and demonstrations by diagrams; references to Menelaos and Archimedes.

Significance: the principal bridge between Greek and Latin spherical projections and trigonometry.

a. Gerard of Cremona

Text: The edition by Curtze, based on the Basel ms., with a few notes from others, proves that there are at least two separate versions (translations or revisions), and that his edition is not definitive; absence of parts of the text of Paris BN 9335 indicates that the edition, like the Basel ms., is incomplete.

Title: Uerba filiorum Moysi filii Sekir id est Maumeti, Hameti et Hasen.

Prol.: PROPTEREA QUIA UIDIMUS quod conueniens est necessitas scientie mensure figurarum superficialium et magnitudinis corporum ... Proprietas communis omni superficiei ...

Inc.: LONGITUDO EST ID QUOD extenditur secundum latitudinem in duas partes ... (ms. Thorn)

Inc.: LONGITUDO EST PRIMA quantitatium que terminant illud et est illud quod extenditur secundum rectitudinem in duas partes ... (Curtze, Basel)

Expl.: ... Iste modus est sufficiens in arte eptagoni cadentis in circulo. Sit ergo circulus ABD in circuitu centri G. Quando ergo uolueris facere in eo eptagonam equalium laterum ... (BN 9335, the rest lost)

Expl.: ... ergo duplum circuli est minus superficie totius corporis et hoc est quod demonstrare uoluimus (Madrid).

Expl.: ... ueritati in illo qui uocet ut sciatur demonstratio super operationem eius etc. Completus est liber trium fratrum auxilio Dei (Curtze).

Editions: 1868, by M. Curtze, in *ZfM* 13, suppl. 61-64

\*\*1885, Halle, by M. Curtze, *Nova Acta Acad. Caes. Leop.-Carol. Germ. naturae curiosorum* 49, 115-159.

Manuscripts: \*Basel F II 33, 14c, 116<sup>v</sup>-122<sup>r</sup> (expl.: ... demonstratio super opinionem eius)

Florence BN conv. sop. A I 1475, 14c, 70<sup>v</sup>-79<sup>r</sup>

\*Madrid BN 10010, 14c, 77<sup>v</sup>-84<sup>r</sup>

Oxford Digby 168, 15c, 123<sup>r</sup>-124<sup>r</sup> (end lost)

Paris BN 7225A, 14c, 2<sup>r</sup>-31<sup>r</sup>

\*Paris BN 9335, 14c, 55<sup>r</sup>-63<sup>v</sup>

Paris Maz. 1256

\*Thorn Gymnas. R 4° 2, pp. 73-79

### 6.—Abû 'Alî [Albohali Alchait]

Author: Yahyâ b. Ghâlib Abû 'Alî al-Khaiyât, a disciple of Mâshâ'allâh, active about 220/854 (acc. Derenb.), or died 835; see Br. '37, 394, Nal. 1.1vi.

#### 1. De iudiciis natiuitatum

Arabic: Kitâb al-mawâlîd, mss. Berlin 5876, Oxford Cat. 1.371.3, and see *ZfM* 24.352.

Contents: routine astrology, horoscopes for illnesses; many short quotations from Ptolemy and Hermes on 'pars fortunae.' Divided systematically into substantial chapters by topics.

Significance: frequently quoted by scholastic writers in Europe as a secondary authority.

#### a. Plato of Tivoli (1136)

Collation: Mss. Digby 47 and 51 correspond closely and are probably complete.

Prol.: Aubuelli Alfayhach liber in iudiciis natiuitatum quem Plato Tiburtinus ex arabico sumpsit anno arabum 530 et Alexandri 1447 in ciuitate Barkelona.

Inc.: Dixit fidelis Abuâli sutor et astrologus: FIRMAUI HUNC LIBRUM significatore natiuitatum in scientia iudiciorum astrorum. Hec esse potest quin sciatur ...

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First Period

Expl.: ... ad similitudinem gradus ... domos secundum hunc modum.

Sign.: Finit liber natiuitatum Albuali Alchait translatus de arabico in latinum a Platone Tiburtino in ciuitate Barchinona [+ cum laude Dei et eius adiutorio], qui factus anno arabum 425, est autem translatio perfecta annis arabum 530 14<sup>a</sup> die mensis scrul anno uero Alexandrino 1447 15 die mensis Iulii.

Manuscripts: Leipzig Univ. 1466, 14c, 73<sup>v</sup>-76<sup>r</sup>

\*London BM Cotton App. VI, 163 seq.

Munich 2841, 16c, 121<sup>r</sup>-131<sup>r</sup>

\*\*Oxford Digby 47, 14c, 154-182<sup>v</sup>

\*\*Oxford Digby 51, 13c, 114<sup>v</sup>-130<sup>r</sup>

Oxford Digby 57, 15c, 151<sup>v</sup>-160 (extracts inc.: Saturnus cum fuerit in suamet domo ... : an interior chapter (cf. Leopold 7.18.1))

Paris BN 7413, 14c, 1<sup>r</sup>-9<sup>v</sup>

Paris BN 7439, no. 4 (acc. ZDMG 24.336)

\*\*Paris BN franç. 1353, 13c, 66 seq. (expl.: ... li 10<sup>mes</sup> quant ele en est eslognee 164)

Wiesbaden 63 2<sup>o</sup>, 15c

#### b. John of Seville (1153)

Significance: A long passage in Leopold 7.18.1-13 (edit. pp. 126-132) is apparently based on this translation, chap. 45. Collation: Edit. 1546 appears to be complete and to have been prepared with care.

Prol.: Dixit Albohali: Iste est liber [+ scientie iudiciorum] in quo exposui [+ et congressi] omnes significationes super natiuitates de scientia stellarum ...

Inc. Cap. 1: De nutritione. PRIMUM OMNIUM NECESSARIUM est prescire scientiam nutritionis in que debes considerare ...

Expl. cap. 45 (edit. 1546): ... si uero fortunis iuncta fuerit uel applicans eis significat sanitatem corporis et temperantiam.

Expl. (ms. Vienna 5337): ... nisi aspexerit eum aliquis de suis dignitatum. Si uero eum aspexerit erit uisus (?) et ipse aspiciens erit alcocodum Deo adiuuante.

Sign.: Perfectus est liber natiuitatum anno ab incarnatione domini [+ Laud 594, Cambr. Kk 4 2: mense Iulii anno ... 1153] cum laude Dei et eius auxilio [adiutorio].

Appended text, cap. 46, edit. 1546, inc.: De domino horae. Dixit Hermes: DOMINUM HORAE in omnibus natiuitatibus habere omnes significationes communes .... Expl.: ... sic enim et certius et foelicius multo iudicabis.

Editions: 1509, Venice: Liechtenstein (omn. 6?)

\*\*1546, Nuremberg (omn. 11), B1<sup>r</sup>-Q3<sup>v</sup>, errata and woodcuts Q4<sup>r</sup> seq.

Manuscripts: \*Cambridge Univ. Kk 4 2 (Clare 15), 13c, 39-47 (with signature)

\*\*Erfurt 2<sup>o</sup> 395, 15c, 220<sup>r</sup>-225<sup>r</sup> (expl.: ... prouenerit Iupiter et Uenus in reuolutione annorum)

\*Erfurt 4<sup>o</sup> 374, 14c, 111-133 (expl.: de dominis 5 dignitatum) Florence BN J IV 20 (S. Marci 182), 15c, 150<sup>v</sup>-151<sup>v</sup> fragment)

Greenville, Miss., Publ. Lib. 1, 15c

London BM Royal 12 C 18, 14c, 2-9<sup>v</sup> (end lost)

\*Oxford Laud. misc. 594, 14-15c, 94-106 (with sign.)

\*Vienna 3124, 15c, 69<sup>r</sup>-82<sup>v</sup> (expl.: ceteras domos equare oportet)

\*\*Vienna 5337, 14c, 171<sup>r</sup>-174<sup>v</sup>

Vienna 10534, 16c, 125<sup>r</sup>-131<sup>v</sup> (+ 141<sup>v</sup>-142<sup>r</sup>?)

Vienna 10539, 16c, 3<sup>r</sup>-46<sup>v</sup> (expl.: nec quicquam dubita; see TK 413)

## NEW TRADITIONS

## 7.—Hermes

Author: Hermes is mythical, a symbol for a monotheistic philosophy of extensive scientific ramifications, active in Egypt and later among the Sabaeans (e.g. Thâbit b. Qurra).

Works: Mere attribution to Hermes Trismegistus suffices to associate essentially all tracts with Hermetic doctrines. The fields included in Arabic literature were summarized by Louis Massignon, in his *Inventaire de la littérature hermétique arabe* (appendix to Festugière, *La Révélation d'Hermès Trismégiste*, Paris, 1950, pp. 384-400).

Other attributions of certain tracts: Hermetic works are also associated with: 1° Enoch, Moses, etc., i.e. Hebrew traditions; 2° Apollonius of Tyana, in the form Balenus, Balemith, etc. (from Bâlinûs Tûwânî), as if revisions made by him (see such allusions in tracts attributed to Jirjis and Thâbit b. Qurra).

Greek: Tracts extant also in Greek, or distinctly translations from that language, are listed first, and only in very summary fashion. Since Hermetic doctrines are primarily Greco-Egyptian, all authentic Hermetica may be supposed to have been written down in this language.

Arabic: Few texts have been studied outside alchemy (a field not here documented). Tracts listed below that contain material on the lunar mansions, a late Hindu element, were probably extant at earlier date and revised by interpolation.

Fragments: The thousands of quotations from Hermes found in many Arabic astrologies have not been studied. They represented a unified set of doctrines often set in contrast to those of Ptolemy, Dorotheus, or the Hindus.

Presentation: All works attributed to Hermes in Latin literature, except alchemical and medical texts, are here documented; the documentation on works known in Greek is summary. Texts on magic are included since they have important connections with astrological materials.

## 1. Pimander (Poimandres)

Text: 18 tracts, with fragments, composed in Egypt during the 4th c. seq., long attributed to Apuleius. Gnostic materials on a world soul, the mythology of heavenly bodies, etc. A convenient edition, with English translation, is that by Walter Scott, *Hermetica*, Oxford, 1924. Marcilio Ficino (edit. 1471) translated the first 14 units under the title of the first, and his version has been frequently reprinted.

Inc.: CUM DE RERUM nature cogitare, ac mentis aciem ad superna erigerem ...

Edition: \*\*1570, Lugduni (in *Iamblichus de mysteriis aegyptiorum*), pp. 367 seq.; including (no. 14) the *Asclepius*, often printed separately.

## 2. De 36 decanis

Text: related to the Hermetic fragments given by Stobaeus. Festugière 1.113 considers this a selection from a major work. Contents: astrology, meteorology, rich in information on Egyptian technologies and social sciences.

Inc.: TRIGINTA SEX AUTEM duodecim signorum ...

Edition: \*\*1936, by W. Gundel, in *Abh. d. bay. Akad. d. Wiss.*, phil.-hist. Kl., N.F., vol. 12, based on the only known mss. (one Latin, one French)

## 3. Centiloquium

Arabic: Fuṣūl al-ʿuṭard al-bâb, ms. Escorial 934.

Contents: aphorisms and precepts on health and warfare, following no apparent method of presentation, perhaps an imitation of the form of Ptolemy's *Centiloquium*.

## a. Stephanus de Messana

Translation: Ms. Prag 1466 bears the date 1262, probably that of the translation or of the dedication to King Manfred of Sicily.

Significance: widely known in Europe, and the outstanding Hermetic text during the Middle Ages, though most allusions to Hermes derive from quotations from compilations.

Collation: the omnibus editions and ms. Vatican Palat. 1445 correspond closely and are all complete and adequate.

Title: Hermetis centum aphorismorum [flores] liber.

Inc.: [Dixit Hermes quod] SOL ET LUNA post Deum omnium uiuentium uita sunt. Multorum quidem natiuitates non habent hyleg, sed quia Sol ...

Expl.: ... luminare ipsum coniungitur de domino eius. His et aliis que tibi ... cum sobrietate utendo numquam procurabis [errabis] cum Dei auxilio.

- Sign.: Et in hoc est finis florum diui Hermetis Termigisti quos Stephanus de Messana ... transtulit in latinum domino Manfredo inclito regi Sicilie pro quo Deo laus.
- Editions: omnibuses 1, 2 (3<sup>r</sup>-4<sup>v</sup>), 3 (117<sup>r</sup>-118<sup>r</sup>), 5 (24<sup>r</sup>-25<sup>v</sup>), 8, 10, 14 (85-89 = H1<sup>r</sup>-H3<sup>r</sup>)
- 1564, Prag, with commentary by T. Hagecius ab Hadek (acc. Houz. 773)
- 1564, Cologne (*idem*)
- 1564, Hagae Comitum (*idem*)
- 1674, Ulm (acc. Björnbo)
- Manuscripts:
- \*Berlin 963 (2<sup>o</sup> 192), 15c, 109<sup>v</sup>-110<sup>v</sup>
- Cracow 601, 15c
- Cracow 793, 15c, 297<sup>r</sup>
- Cracow 805, 15c
- Cracow 1843, 15c
- Cues 208, 14c, 151<sup>rv</sup>
- Dresden Stadtb. R 172, 14c, pt. 1
- Dresden Stadtb. R 172, 14c, 78<sup>r</sup>-80<sup>v</sup>
- \*Erfurt 2<sup>o</sup> 386, 14c, 50<sup>rv</sup>
- \*Erfurt 4<sup>o</sup> 352, 14c, 17<sup>r</sup>-18<sup>v</sup> (excerpts)
- \*Erfurt 4<sup>o</sup> 354, 14c, 1<sup>v</sup>-3<sup>v</sup>
- \*Erfurt 4<sup>o</sup> 361, 14c, 95<sup>r</sup>-96<sup>v</sup>
- Erfurt 4<sup>o</sup> 386, 14c, 13<sup>r</sup>-15<sup>v</sup> (Propositiones Hermetis = ?)
- \*\*Erfurt 8<sup>o</sup> 82, 13c, 183<sup>r</sup>-186<sup>r</sup>
- Ghent 416, 15c, 1<sup>r</sup>-3<sup>r</sup>
- Görlitz 18, 14c, 79<sup>v</sup>-82<sup>r</sup>
- Kloster-Neuberg 687, 14c, 101<sup>r</sup>-102<sup>v</sup>
- Leipzig Univ. 1466, 14c, 118<sup>r</sup>-119<sup>r</sup>
- Leipzig Univ. 1476, 15c, 12<sup>v</sup>-14<sup>r</sup>
- \*Madrid BN 10009, 13c, 225<sup>r</sup>-226<sup>v</sup>
- Maihingen suff. l. 4<sup>o</sup> 47<sup>a</sup>, 15c, 4<sup>r</sup>-5<sup>v</sup>
- \*Munich 51, 15-16c, 46<sup>v</sup>-49
- Munich 6748, 15c, 98<sup>v</sup>
- Munich 11067, 15c, 56<sup>v</sup>-60<sup>r</sup>
- Oxford Ashmole 357, pt. 6
- \*Oxford Digby 97, 15c, 134<sup>v</sup>-136
- Oxford Laud. misc. 594, 118
- Prag 433, 15c, 206<sup>r</sup>-208<sup>r</sup>
- Prag 629, 15c, 38<sup>v</sup>-41<sup>v</sup>
- \*Prag 1466, 15c, 61<sup>r</sup>-133<sup>r</sup> (inc. and sign. despite inordinate length)
- Toledo Cathedral 98-18, 18c, 22<sup>r</sup>-41<sup>r</sup>
- \*Vatican Palat. 1368, 15c, 36<sup>r</sup>-37<sup>r</sup>
- Vatican Palat. 1369, 15c, 87<sup>v</sup>-89<sup>r</sup>
- Vatican Palat. 1414 (1419?), 14c, 41<sup>r</sup>-43<sup>v</sup> (TK 212)

- \*\*Vatican Palat. 1445, 15c, 157<sup>v</sup>-161<sup>v</sup>
- Vienna 4773, 15c, 58<sup>r</sup>-61<sup>v</sup> (title only)
- \*Vienna 5438, 15c, 157<sup>r</sup>-161<sup>r</sup>
- \*\*Washington Libr. Congr. 123, 15c, 71<sup>r</sup>-75<sup>r</sup>

## 4. De stellis beibeniiis

Text: see Th. 2.221.

Contents: astrological attributes of the 'desert stars,' a classification of Eastern origin not yet studied and never very important.

## a. Salio

Collation: Edit. 1493 and 1581 are complete and fully adequate; ms. Vienna adds the signature.

Title: De iudiciis et significatione stellarum beibenarium in natiuitatibus; De stellis fixis que dicuntur beibenie et de significationibus ipsarum in natiuitatibus.

Rubr.: Iste liber est Hermetis caput omnium sapientium extractus. Prol.: Dixit Hermes: EGO DICAM UOBIS de rebus fortune, unde habebitis letitiam cum eis et habebitis imaginum proficium ex eis ...

Cap. 1: ASPICE STELLAM beibenie que dicitur Hasset et est in 6 minuto [+ in Libra] meridionalis ...

Expl.: ... triplicitatis Lune et sic peruenies ad id quod queris si Deus uoluerit.

Sign.: Completus ... a magistro Salione de arabico in latinum Toleti.

Editions: omnibuses 1, 2, 3 (118<sup>rv</sup>), 7

\*\*1581, Lyon: Tighi (with Peurbach), pp. 953-956

Manuscripts: \*Lyon 329, 15c, 267<sup>v</sup>-268

Oxford Digby 123, 15c, 63-65 (beginning and end lost)

\*\*Vienna 3124, 15c, 161<sup>r</sup>-162<sup>v</sup>

## 5. Sermo Hermetis de accidentibus

Contents: thirty aphorisms on astrology; see Th. 2.222.

Collation: ms. London is clear and apparently complete.

Inc.: ORDINA SIGNIFICATIONES fortiorem et debiliorem quia ceteri participant cum hiis duabus. Si planete fuerint equalium dignitatum ...

Expl.: ... significationis erit res econtrario.

Sign.: Explicit sermo Hermetis de accidentibus, rescriptus ab Haly.

Manuscripts: \*\*London BM Harley 3731, 15c, 170<sup>v</sup>-172<sup>v</sup>

Vatican Ottob. 1552, 99<sup>v</sup>-101<sup>v</sup>

# 6a. De quindecim stellis ...

56

Hermes

Text: Latin from a reputed Arabic revision by Māshā'allāh based on a Greek original.

Contents: magic according to series of stones, plants and images; described by Lynn Thorndike in *Mélanges Auguste Pelzer*, Univ. of Louvain, 1947, pp. 224-227. See Festugière, *op. cit.*, 1.161-186.

Collation: Edit. 1942 is excellent for text and content, though all known mss. were not used.

Prol.: INTER MULTA ALIA bona que antiqui sapientissimi narrauerunt philosophi, Hermes Abhaydimon pater philosophorum ...

Inc.: Dixit Hermes: BEATUS EST QUI cognoscit quod uidet ... Cum aspicerem Aldebaran ...

Expl. (part 5): ... tuam scientiam in magica rectificare.

Edition: \*\*1942, by Delatte, in *Bibl. de la Fac. de Philos. et Let. de l'Univ. de Liège*, fasc. 93, pp. 241-275 (based on 5 mss., *Mél. Pelzer* notes 13 others)

# 6b. Revision attributed to Enoch

Contents: virtues of series of stones, herbs and a ring for each herb; see *Mél. Pelzer* pp. 221-223. Apparently begins with chap. 2 of above (edit. Delatte, p. 246).

Prol.: ENOCH [INAC] TAMQUAM UNUS ex prophetis ... PRIMA STELLA aliarum ... Aldebaran ...

Inc.: Dixit Enoch quod quindecim stelle sunt ...

Expl.: ... sculpi uel designari possunt.

Sign.: ... in lapidibus sculpendos.

Edition: \*\*1942, by Delatte, *op. cit.*, pp. 277-288.

# 6c. De proprietatibus quarundam stellarum

Text: another revision of no. 5 above; also attributed to Thābit; see *Mél. Pelzer*, p. 223.

Inc.: PRIMA STELLA UOCATUR Algol, et est in 23° ...

Expl.: ... sit in hoc anulo. Finitur opusculum Thebit ... preter temporis lapsum.

Manuscripts: \*\*Florence Laur. pl. 89 cod. 38, 15c, 1<sup>r</sup>-3<sup>v</sup> (= 11<sup>r</sup>-13<sup>v</sup>)

London BM Sloane 3846, 86<sup>v</sup>-93<sup>r</sup>, 3847, 84<sup>r</sup>-100<sup>r</sup>, 3883, 87<sup>r</sup>-93<sup>r</sup> (acc. *Mél. Pelzer*, by title only, perhaps 18.7 below)

\*Paris BN 7337, 15c, p. 129 seq.

# 7. Kyranides

Text: according to Festugière 1.202, the text as edited by Delatte is composed of two independent parts, book 1 =

Kyranis, books 2-4 = Koiranides. Book 1, dealing with magic and medicine, is composed of an alphabetical list of plants associated with birds, fish, and stones by magic letters; it was revised by the 8th c. Books 2-4 form a bestiary. On the sources see Festugière 1.208 seq.

Prol.: Erudissimo domino magistro Ka. Pa. ... Admiror et commendo ... anno uero Christi 1169 indictione secunda.

Pref.: Liber physicalium uirtutum ... ex prima uidelicet Kyranidarum Kyranis regis persarum et ex libro Arpocratonis alexandri ad propriam filiam. Habebat autem primus Kyranis liber sic ...

Inc.: Sic enim principia ... Elementum I ... AMPELOS LEFKI quod sonat uitis alba ...

Expl. lib. 1: ... ad alios Kyranis libros ut ab eis proficuum habeamus.

Inc. lib. 2: Secunda Kyranis de quadrupedibus. De capris. Aeges id est caprae ...

Expl. lib. 4: De ouis piscium ... passa esa omne fastidium sanant.

Epilogue: Et hec quidem diuina natura ... de lapidibus exsequemur.

Edition: \*\*1942, by Delatte, *op. cit.*, pp. 11-206 (using 6 mss.; Singer, pp. 761-763, lists 3 others)

# 8a. Compendium aureum

Text: supposedly derived from a *Liber Kyranidarum Kyranis*, said to have been discovered at Troy by Flaccus Africanus. See Festugière 1.203, 323, Singer, pp. 769-773.

Contents: therapeutic properties of the seven planets.

Prol.: Flaccus Africanus discipulus Belbenis Claudio Atheniensi ...

Inc.: SOLSEQUIUM HERBA EST omnibus nota [Herba prima attributa Soli est solsequium] ...

Expl.: ... uirtutem predictae compositionis [... inueniendo finem laudabilem; ... quia istud nulli reueles].

Edition: \*\*1942, by Delatte, *op. cit.*, pp. 213-233 (mentioning edit. 1888 and using 6 mss.; Th. 2.233 lists 9 mss.)

# 8b. Another version

Text: reported by Singer, pp. 766-768, with the Greek.

Prol.: Hic incipit tractatus de septem herbis ... superioribus naturaliter.

Inc.: Prima autem herba est Saturni que affodillus ...

Expl.: ... in ordeo et frumento.

Manuscripts: Edinburgh National Libr. 18.6.2, 186<sup>r</sup>-187<sup>r</sup>

London BM Sloane 342, 134<sup>rv</sup>

Oxford Bodl. Ashm. 1448, pp. 44-45

Oxford Bodl. Digby 147, 106<sup>rv</sup>

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New Traditions

## 9. De secretis nature

58

Hermes

Text: associated with Apollonius, like several of the following, and possibly a revision of his writings. Translated by Hugh of Santalla. See Corbett, p. 164.

Contents: alchemy, magic, gems, and a small part of book 2 on astronomy (ms. fol. 8<sup>v</sup>-10); Haskins, p. 80, gives further quotations.

Title: Hermes Trismegisti liber de secretis nature et occultis rerum causis ab Apollonio translatus. Incipit liber Apollonii de principalibus rerum causis.

Inc.: IN HUIUS UOLUMINIS serie eam principaliter tractaturus sum disciplinam ...

Expl.: ... quod uidelicet Hermes philosophorum triplicem sapientiam uel triplicem scientiam appellat.

Sign.: Explicit liber Apollonii ... Hugonis sanctalliensis translatio ... discretus.

Manuscript: \*Paris BN 13951, 12c, 1<sup>r</sup>-31 (acc. Haskins).

## BOOKS ON PLANETARY IMAGES

Texts: presumably all fragmentary, representing two different major works each in 7 or 8 books, each book dealing with one planet.

Presentation: a compromise pending further research: the fragments are classified according to the sequence of the planet under discussion, with collective treatments placed last, and most works devoted to the lunar mansions placed later in a special list.

Research to date: primarily by Lynn Thorndike, in his *History of Magic*, but more recently in *Mél. Pelzer*. Thorndike does not, however, classify the various texts as parts of a longer work.

*Liber imaginum Mercurii*: a work in 8 parts described by Albertus Magnus (*Lic.* chap. 11). His description is not entirely clear, though he seems to refer to one sequence of books forming a strict unit: "Sunt multi tractatus, unus de imaginibus Mercurii, alius de characteribus eius, alius de anulis et alius de sigillis ...," with the incipit on seals thus: "Dixit expositor huius libri: OPORTET QUERERE HANC SCIENTIAM ... " No copy as yet known confirms either this incipit or the existence of a group of 8 books beginning with one on the planet Mercury. Albertus continues by giving brief details on the

following books, e.g.: "Post istum est Liber Ueneris habens similiter plures tractatus ...," with incipit for chap. 10 on seals thus: "Mentio 10 capitulorum atque anulorum Ueneris ..." Albertus mentions next a tract known to us, presumably a book 3: "Et hos sequitur Liber Solis qui sic incipit: LUSTRAUI ..." He adds that for the remaining planets there are only short tracts (perhaps our nos. 15-19 below), and that the series ends with a *Tractatus octauus in magisterio imaginum*.

Ms. Florence BN II III 214: contains a *Liber Lune* and a *Liber imaginum Lune*. The opening passage in the latter speaks of it as a 'pars prima,' but the subject matter is entirely a presentation of the lunar mansions. The former precedes a *Liber Solis* the prologue of which states: "In ordine septem librorum planetarum liber Solis secundus est, ut in libro Lune diximus ..." The ms. also contains another *Liber Solis* with the incipit given by Albertus: "Lustraui ..." These details point to the existence of two separate groups of books, but the treatment of the lunar mansions prevents too hasty associations, and it may well be that Albertus, or the copy before him, was confused. It has not yet been noted that ms. Florence is systematically and elaborately reworded, perhaps from two source copies or even from two different texts; its incipits must therefore be used with extreme caution as identifying detail.

## 10. Liber Lune

Text: presented as a book I to be followed by a book II on the sun; I believe the latter to be no. 13 below.

Contents: magic images for incantations; see *Mél. Pelzer*, p. 241.

Collation: I report detail below from *Mél. Pelzer*, except the true incipit which I transcribe from the manuscript.

Title: Liber planetarum ex scientia Abel ...

Prol.: SEPTEM SUNT PLANETARUM circuli quorum primus ... (ms. 17<sup>r</sup>) exequenda omnium testimonio comprobetur. Hec sunt capitula ... (table of 21 chapters)

Inc.: Capitulum 1 de nominibus 12 signorum. QUAMUIX SUPERIUS de huius artis diuine ...

Sign.: Completus est liber Lune ... ipso et per ipsum.

Manuscript: \*Florence BN II III 214, 15c, 15<sup>r</sup>-20<sup>r</sup>

## 11. Operatio Lune

Title: Operatio Lune secundum uiam Hermetis et Morieni ...

Manuscript: \*Vienna 11381, 17c, 176<sup>r</sup><sup>v</sup>

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New Traditions



## 12. Glossula super librum imaginum Lune

Inc.: SCIAS QUOD OPORTET nomen ...

Manuscript: Oxford Corpus Christi 125, 14c, 108

## 13. Liber Solis

Text: book two following no. 10 above in ms. Florence, and in ms. Vatican following a *De imaginibus* (inc.: SOLIS IMAGO ..., below, no. 22) the prologue contains several references to a preceding *Liber Lune*.

Contents: On the list of images here included see *Mél. Pelzer*, p. 245.

Collation: The two mss. correspond and are presumably complete.

Prol.: IN ORDINE SEPTEM librorum planetarum, liber Solis secundus est, ut in libro Lune diximus. Et est liber Solis magnus ... Hermes Triplex post diluuium in Ebron primus inuenit quem sic dimisit Abel ... In prima huius diuini uoluntatis operatione constituti ... est 12 prestigiorum ...

Inc.: A nominibus igitur Solis in signis existentibus incipiamus. SOLE IN ARIETE existente nominatur symor, in Tauro maror, in Gemini sasor ... (plus list of rubrics)

Expl.: ... que diximus reiterentur ordine.

Sign.: Perfectus ... futuri diluuii quos postea inuenit Hermes.

Manuscripts: \*\*Florence BN II III 214, 15c, 20<sup>v</sup>-23<sup>v</sup> (first folio seen)

\*\*Vatican 1375, 270<sup>v</sup> seq. (first folios seen)

## 14. Septem tractatus in operatione Solis et Lune

Text: see Th. 3.637.

Inc.: CUM IN TANTA etatis prolixitate ...

Manuscripts: Bologna 139/105, 14c, 281-309 (TK 142)

Florence Ricc. 1165, 134<sup>r</sup>-136<sup>v</sup> (TK 142)

## 15. Liber Mercurii

Text: cited in *Mél. Pelzer*, p. 244; possibly a part of the major work described by Albertus Magnus.

Title: Hic est liber Mercurii Hermetis qui est uelox currendo in spera celi ...

Manuscript: \*Florence BN II III 214, 1c, 24<sup>v</sup>-26<sup>v</sup> (acc. *Mél. Pelzer*)

## 16. De imaginibus Martis

Text: not known; the incipit is given in *Lic*.

Inc.: HIC EST LIBER Martis quem tractat ...

Manuscripts: none known; see TK 291

## 17. Liber Iouis

Text: mentioned in *Mél. Pelzer*, p. 246.

## 18. Liber Saturni

Text: see *Mél. Pelzer*, pp. 246-247; presumably a part of the work described by Albertus.

Prol.: In nomine Dei coniuratio est Betronos quod est Saturnus translatus de arabico in latinum a Theodosio archiepiscopo sardinensi ... inuentus in libris Hermetis, transtulit eum Apollonius.

Inc.: HIC EST SATURNUS planetarum primus cuius sigillum qui uult operari ...

Manuscript: \*Florence BN II III 14, 15c, 33<sup>r</sup> (acc. *Mél. Pelzer*)

## 19. De imaginibus Saturni

Text: the incipit coincides with that given by Albertus Magnus.

Inc.: HIC EST LIBER Saturni [+ quem tractat Hermes triplex ... *Lic*.) ...

Manuscripts: Palermo 4 Qq A 10, 46 (TK 292)

Vatican Palat. 1340 (acc. *Mél. Pelzer*, p. 246)

## 20. Belemith de imaginibus septem planetarum

Text: compare the incipit of no. 21a; apparently the subject matter of no. 21.

Collation: both mss. apparently contain the complete text.

Inc.: Hermes [Dixit Belemith] qui uocatus est Apollo: CONGREGAUI EFFECTUM planetarum in diebus atque noctibus secundum quod sint diurni quod non ...

Expl.: ... pone imaginem in loco iterum. Restat nunc ut de sigillis et karacteribus te instituiam [instruam + 4 lines of seals].

Manuscripts: \*\*Vatican Palat. 1375, 14c, 270<sup>rv</sup> (followed by no. 13).

\*\*Vatican Palat. 1445, 15c, 157<sup>r</sup>

## 21a. De imaginibus et horis

Text: a unified tract to which has been prefixed a short formula found in slightly different form in other tracts (e.g. 20, 21b, 24a-b) and presumably a type presentation for certain Hermetic documents. Consequently, all mss. hitherto identified by this detail alone must be reclassified.

Contents: each planet in its day, magic signs for each planet.

Collation: Ms. Florence is apparently complete, but the explicit has not yet been confirmed from other copies.

Prol.: Dixit Hermes huius libri editor: LUSTRAUI PLURES

IMAGINUM scientias et non inueni certiores ordine uel ueraciores probatione quam illas quas in hoc libro commendo. Cum ergo uolueris ea operari et utere hoc exemplo quod narro proficiesque in omnibus et peruenies ad effectum. Cumque ... planete ex opere.

Inc.: De die Solis et eius uirtute. CUMQUE UOLUERIS SCRIBERE ad odium alicui, aspice Solem die eius, quem si inueneris in Ariete uel Leone ...

Expl. (Dies Saturni): ... sua fortuna eius fortius opus erit.

Manuscripts: \*\*Florence BN H III 214, 15c, 8<sup>v</sup>-9<sup>v</sup>

\*Oxford Bodley 463, 77<sup>rv</sup> (through Dies Martis, end lost)

Vatican 4085, 95<sup>r</sup> (fragment of which text? followed as in ms. Bodley by Ptolemy no. 28)

Wiesbaden 79, 16c, 51<sup>r</sup>-53<sup>r</sup> (inc. as above to ... non inueni ...; expl. et quicquid queras sine dubio optinebis)

#### 21b. De 24 horis

Text: introductory formula as above; the end of the tract cannot be clearly determined by ms. Arundel.

Contents: the 12 hours of day, those of night; 12 rings; 2 lapidaries.

Collation: Correspondence with ms. Arundel, which is presumably complete, is established by minor detail in ms. Vatican.

Title (ms. Vatican): De 24 horis compositi a Baleno, et primo de 12 horis diei.

Prol. (ms. Arundel): Dixit Hermes: LUSTRAUI PLURES IMAGINUM scientias nec inueni ueriores nec certiores hiis que scripte sunt in libro. Et [ms. Vatican picks up next three words at least] hec sunt nomina horarum diei quibus fiunt.

Inc. (ms. Arundel): Prima hora. SCITO QUOD PRIMA hora omnium dierum libicon grece nominatur. In ea fit oratio ad dominum suum; bonum est ea allegare omnes linguas [cf. these words in ms. Vatican, recorded below] ...

Expl. 24th hour: ... aliquid frustrare in sempiternum.

Part 2. De nominibus angulorum [for angelorum or anulorum?] qui sequunt imaginibus. NOMINA ANGULORUM QUI sequunt imaginibus Lune circulo eius et lapidibus per quos ... et sunt 54 anguli: girael, gerachil [all are named] ... (80<sup>v</sup>) ... quoscumque uoluit subiungauit. (De anulis ...)

Part 3. De anulis. PRIMUS ANULUS fit de lapidibus Ueneris. Dixit Cozogeus: Uenus habet tres lapides, habet enim aleça ... (12th anulus) ... et sepellies eum sub sinistro humero donec calefaciat.

Manuscripts: \*\*London BM Arundel 342, 14c, 78<sup>r</sup>- (83<sup>r</sup> inc.: REX ABADET ... (lapidary) ... galli pedes sinistri; 83<sup>v</sup>:

Incipit alius liber lapidum. LAPIS ADAMANS sicut superius ...

\*Vatican Palat. 1116, 15c, 115<sup>v</sup> (acc. *Mél. Pelzer* 242, a text on the 24 hours; then [sic!] De aliis horis diei 12 practica. Dixit Balenus: FIT IN PRIMA HORA diei ad ligandas omnes linguas ut non loquantur (cf. inc. above and 9.2 below)

#### 22. De imaginibus siue anulis septem planetarum

Text: perhaps better classified with tracts attributed to Jirjis (e.g. 9.2).

Contents: short passages on 'Solis imago,' etc., following folios not seen. This kind of celestial image was extensively treated by Abû Ma'shar, see my Leopold, p. 65.

Inc.: SOLIS IMAGO est homo equitans cursu ductum quatuor equis, et in eius manu dextra tenens speculum ...

Expl.: ... Luna coniuncte (?) in Tauro.

Manuscript: \*\*Vatican Palat. 1375, 15c, 270<sup>rv</sup>

#### 23. De septem anulis septem planetarum

Inc.: DIUISIO [DIMINUTIO] LUNE quando implete fuerit ...

Manuscript: incipit cited as above in *Lic.* (acc. *Mél. Pelzer* 247)

### BOOKS ON THE LUNAR MANSIONS

Texts: some are presumably of Greco-Egyptian origin, with material on the mansions, of Indian origin, added to them. Much of this material was described in *Mél. Pelzer*, pp. 238-241. See *ZDMG* 5.18, 186-187, Bonatti, edit. 1506, HH2<sup>r</sup>, *Liber nouem iudicum*, edit. 1507, B4<sup>r</sup>, ibn Abi 'r-Rijâl, edit. 1503, 80<sup>v</sup> (= 7.101).

Contents: names and description of the lunar mansions, their configurations and attributes, and their relationship to systems of magic images. On the mansions see my Leopold, pp. 61-62, 65, and my al-Farghânî, chap. 20, where they are named and identified.

#### 24a. Liber imaginum Lune

Text: The prologue, at least, appears to be another translation of that of nos. 21 and 24b.

Contents: a systematic list of the lunar mansions with brief notes on their attributes; see also *Mél. Pelzer*, p. 239.

Collation: Ms. Vienna is apparently complete and authentic and its several parts are confirmed by those of the other copies marked with [\*] below; the first page of ms. Florence corresponds closely.

Title: Liber imaginum Lune et iudiciorum eius in hoc mundo minori et eius circulus est habitantium in terra ... et sunt ei mansiones 28 et 28 imagines ... bonum siue malum sit.

Prol.: Dixit Hermes: PROBAUI UNIUIERSOS [OMNES] libros omnium planetarum, sed non uidi ueriores et perfectiores hoc breuissimo libro. Nominauerunt ... librum Lune que est pars prima ... Dei et eius adiutorio.

Inc.: De uirtutibus mansionum Lune. Dixit Belenus Apollo: CUM FUERIT LUNA in Anach que est prima mansio ... Secunda est Abuthaim ...

Expl.: ... cum descenderit in eam Luna, fac imaginem omnis [+ rei] quod [que] ducit ad perfectum [perfectionem].

Manuscripts: Copenhagen Gl. Kgl. S. 1658, 15c, 228<sup>r</sup>-236<sup>r</sup> (expl.: ... de omnibus planetis et singulis diebus ... dicta sufficiant)

\*Copenhagen Gl. Kgl. S. 3499, 15c, 92<sup>v</sup>-95<sup>v</sup> (expl. as above)

\*Florence BN II III 214, 14c, 9<sup>v</sup>-15<sup>r</sup> (10<sup>r</sup> seen)

Vatican Palat. 1445, 181<sup>v</sup> (inc.: PROBAUI ... acc. *Mél. Pelzer*, 238)

\*\*Vienna 2378, 15c, 43<sup>r</sup>-44<sup>r</sup>

#### 24b. De Lune mansionibus liber

Text: on the prologue see above; details mentioned in *Mél. Pelzer*, p. 240, suggest that the content of this tract differs in some detail from that of 24a.

Title: Hic incipit liber imaginum translatus ab Hermete id est Mercurio qui latine prestigium Mercurii appellatur, helyanin [heliemen] in lingua arabica ...

Pref.: CUM ENIM SAPIENS [-tis] indagator ueritatis ...

Prol.: Dixit Hermes: PROBAUI OMNES LIBROS septem planetarum et non inueni ueraciorem neque perfectiorem etiam parte hac pretiosissima ...

Cap. 1: Dixit Balemich supremus et peritissimus ...

Sign.: Explicit liber Lune de 28 imaginibus Lune translatus ab Hermete.

Manuscripts: \*London Harley 80, 77<sup>v</sup>-80<sup>v</sup> (given by title acc. *Mél. Pelzer*, p. 238)

\*Oxford Corpus Christi 125, 14c, 62<sup>r</sup>-68<sup>r</sup> (with sign. acc. *Mél. Pelzer*, p. 239)

*Mél. Pelzer*, p. 239)

\*Oxford Digby 228, 14c, 54<sup>v</sup>-55<sup>v</sup> (an interior fragment)

#### 25. Tractatus de septem planetarum et de 12 signis et de 28 mansionibus Lune et de 28 constellationibus

Text: apparently a unified work, with the same appended tract in both mss.

Contents: qualities of each planet, its relationship to parts of the body; the lunar mansions by name and according to the

influences of each, 50-100 words for each mansion, after the form used by 'Alī ibn abi 'r-Rijāl.

Collation: Ms. Oxford is apparently complete, my notes from ms.

Boston confirm all quotations below verbatim to and including the title of the appended text.

Prol.: Gloriosus et sublimis Deus creator omnium rerum in prima mundi origine ...

Inc.: SATURNUS EST FRIGIDUS et siccus .... Iupiter est beneuolus humidus et calidus ...

Cap. Nunc dicamus de 28 mansionibus Lune. Unde prima mansio ab antiquis philosophis uocatur Aluali [al-'awwā'] que est facies Martis ...

Expl.: ... in Piscibus graciosus et grossus.

Appended text: De Luna. CUM CURSUM LUNE scire uolueris, scito ... de temperie aeris patent. Ideo in hoc tractatu talia hic reseamus. Expl.

Manuscripts: \*\*Boston Medical 20, 43<sup>r</sup>-47<sup>v</sup> (48<sup>r</sup>: De Luna)

\*\*Oxford Digby 147, 15c, 119<sup>r</sup>-124<sup>v</sup>

#### 26. Forme et nomina mansionum Lune

Title: Incipiunt nomina mansionum et ...

Inc.: PRIMA MANSIO LUNE CAPUT Arietis ...

Expl.: ... uel Bachonalheno: ita formatur.

Manuscript: Vatican Palat. 1369, 15c, 119<sup>rv</sup>

#### 27. No title

Inc.: CUM LUNA EST IN ALNATH id est in capite Arietis ...

Expl.: ... non est bonum prestare pecuniam neque nauem ponere in aquam nec emere seruos.

Manuscript: \*Vienna 3394, 14c, 238<sup>r</sup>-242<sup>v</sup> (described by Saxl, 2.132)

#### 28. No title

Inc.: PRIMA MANSIO LUNE AB antiquis philosophis uocatur Alnach ...

Manuscript: \*Oxford Digby 228, 14c, 14<sup>v</sup>-15

#### 29. No title

Inc.: HEC SUNT NOMINA 28 mansionum Lune per quas et omnes planete peragunt cursus ...

Manuscript: Paris BN 17868, 10c, 14<sup>v</sup> (see Millás, p. 256)

#### 30. No title

Text: follows, or is a part of, a long tract with explicit: ... uel figuras ... tempori per naturam.

Inc.: MANSIONES LUNE SUNT 28 quarum qualitates et nomina atque gradus secunde spere ...

Expl: ... in libello de pluuiis.  
Manuscript: \*Erfurt 2° 395, 15c, 125<sup>v</sup>

### 31. French translation

66 Inc.: CE SONT LES 28 mansions de la lune lesquelles Daniel le  
Hermes prophete desclaira, Hermes ...  
Manuscript: \*Paris Arsenal 2872, 14c, 394-397

### 32. No title

Inc.: LUNA HABET 28 mansiones ...  
Reference: \*Boston Medical 20, 14c, 187<sup>r</sup> (TK suppl. 356)

### 33. No title

Text: mansions with respect to illnesses. Compare no. 25,  
appended text.  
Inc.: QUI CURSUM LUNE recte scire uoluerit, sciat ...  
Expl.: ... opus est ei ut minuatur sanguinem et si fortuna aspexerit  
eum, uiuet sin autem morietur.  
Manuscript: \*Toledo Cat. 90-32, 15c, 54<sup>r</sup>-66<sup>v</sup> (acc. Millás, *Trad.*,  
p. 83)

### Philosophical Tracts

Texts: fragments perhaps of the older Hermetic corpus.

### 34. Diffinitiones de Deo

Contents: 23 short definitions: followed in ms. by 3 tracts of  
Apulegius (pseudo-commentator). Perhaps to be associated  
with the Greek corpus.  
Inc.: DEUS EST MONAS monadem gignens in se uerum reflectens  
ardorem ...  
Expl.: ... Deus est ex quo est quidquid ... in quo est quod est  
non commixtione.  
Manuscript: \*\*Erfurt 8° 7, 15c, 36<sup>v</sup>

### 35. Prologus

Title: Prologus librorum Hermetis philosophi regis Egypti super  
opere philosophico.  
Expl.: ... Hermes philosophus de sapientia quam uidelicet  
omnibus.  
Manuscript: \*Cambrai 919 (818), 14-15c, 32<sup>r</sup>-38

### 36. De sex rerum principiis

Contents: described in catalogue for Digby 67; in 5 parts.  
Inc.: TRIA SUNT QUE intellectum hominis ...  
Expl.: ... mutabilitatem temporis et temporalium.

Manuscripts: Oxford Bodl. 464, 14c, 151<sup>r</sup>-162<sup>r</sup> (acc. Th 2.222)  
\*Oxford Digby 67, 12c, 69<sup>r</sup>-78  
Utrecht 722, 14c, 95-104<sup>v</sup>

### 37. De sex principiis

Contents: The preface, on the three Mercuries, introduces the  
work of Morienus, acc. to Thorndike (cf. above no. 11).  
Pref.: LEGIMUS IN uerbis [historiis] diuinorum historiis ...  
Expl.: ... domus in olla posita sint, qui sapit exponat.  
Manuscripts: \*Oxford Digby 221, 14c, 88<sup>r</sup>-100  
\*Vatican Palat. 1339, 14c, 1<sup>v</sup> seq. (acc. Thorndike)

### 38. De causis rerum

Inc.: OMNIS CAUSA primaria est influens super causas ...  
Comm.: Quod est causa? quia causa uniuersalis prima ...  
Expl. text: ... est ens et generatio simul.  
Expl. comm.: ... faciens acquirere non acquisitum sicut osten-  
dimus.  
Manuscript: \*Oxford Digby 67, 14c, 85<sup>r</sup>-89

### 39. De sapientia generationis lapidis

Contents: alchemical; see Millás, *Trad.*, pp. 89-90.  
Collation: the ms. is reported as if complete.  
Prol.: De lapide, cum expositione Mosys hebrei primatis.  
PRINCIPIUM OMNIUM ENTIUM Deum creatorem ...  
I. Opus maximum et supremo inter omnia opera de genera magis-  
teriorum ...  
II. Mosys de opere nature. Quando quidem igitur ad hec pro-  
gradientibus ...  
III. Mosys de opere artis. At uero cum sane indiuiduorum  
alterationem ...  
IV. Mosys de magisterio philosophorum. Nostrum igitur sal ad-  
prouisum sal ... capax bene audias.  
Manuscript: \*Toledo Cat. 96-38, 16-17c, 1<sup>r</sup>-34<sup>v</sup> (acc. Millás)

### 40. De iudiciis urine sine uisu eiusdem

Contents: prognostications on urine according to planetary  
aspects.  
Inc.: Dixit Hermes primus [pater] philosophorum: NON EST  
MEDICUS sapiens in pronosticis signis tantum in hiis que  
uisu percipiuntur nisi sit in ipso frenesi ...  
Expl.: ... furore percussione uersis (?) lat.  
Manuscripts: Vienna 5307, 15c, 150<sup>r</sup><sup>v</sup> (fragment with this title)  
\*\*Wolfenbüttel 2841, 15c, 380<sup>v</sup>-382<sup>r</sup>

41. [Excerptus]

Contents: probably an isolated chapter, dealing with thunder in each sign of the zodiac.

68

Title: Incipit Hermes Trismegistus excerptus.

Inc.: IN QUOCUMQUE SIGNO fit tonitruum siue in die siue in nocte uerum erit quicquid notauerit anno eodem ...

Expl.: ... ordenis (?) minorabitur homines infirmabuntur nec tamen multi morientur.

Manuscript: \*\*Oxford Canon, misc. 517, 13c, 20<sup>r</sup>

42. Secreta uel de salibus et corporibus

Contents: alchemical, discussed in Th. 2.218, *Isis* 1930, 187-188, Steins. '06, 25.

Rubr.: Incipiunt secreta Hermetis ... (TK 519)

Inc.: INUENTOR TRANSFORMATIONIS ... (TK 366).

Inc.: PRIMO SCIENDUM EST quod septem sunt ... (TK 519).

Manuscript: Florence Ricc. 847, 15c, 72<sup>v</sup>-73<sup>v</sup> (acc. Th.)

43. Flores Hermetis extracti de libro de speculis et de luce

Contents: optics and magic, nativities by planets, ascensions, and aspects. See *Isis* 1929, 75.

Inc.: AGENS UNIUERSALIS [-e] et significatrix post primam naturam ...

Expl.: ... cui ipsum luminare coniungitur de dominum eius.

Manuscript: \*\*Vatican Ottob. 1552, 15c, 83<sup>r</sup>-87<sup>v</sup>

44. Equationes animodar

Title: Hec sunt equationes animodat [i.e. -r] Hermetis quas posuit Auenesre et magister suus princeps Abraam.

Inc.: SED CUM IN NATIUITATE data nec Uenus ...

Manuscript: \*Oxford Digby 210, 15c, 88<sup>v</sup>-93

45. De quibusdam medicinis in coniunctionibus planetarum

Text: reported by Albertus Magnus in *Lic.*, see *Mél. Pelzer*, p. 247; cf. no. 54 below.

Inc.: QUANDO SATURNUS iungitur Ioui ...

46. De confectionibus

Text: as above.

Title: De confectionibus ad capienda animalia siluatica et lupos et aues.

Inc.: Dixit Aristoas [Aristoteles]: UIDISTINE HERMETEM [UIDISTE ME, o Hermes] ...

Manuscript: Montpellier 277, 15c, 64-65 (acc. *Mél. Pelzer*, 248)

47. Tabula smaragdina

Texts: The richness and variety of documents centering on this title may be judged by J. Ruska's book by this name (Heidelberg, 1926). Sample Latin tracts, probably fragments, are identified below from Corbett. No meaningful explicits have been confirmed.

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New Traditions

a. Liber Hermetis de alchemia

Prol.: QUONIAM DE OPERE philosophorum ... scripta inter manus Hermetis in qua inuenis scriptum.

Inc.: Tabula Smaragdina. UERUM SINE MENDACIO ....

Expl.: ... partes habens sapientie.

Manuscript: \*Paris BN 6514, 13-14c, 39<sup>r</sup>

b. Tabula smaragdina

Text: said to be an "explanatio" by ar-Râzi

Prol.: EGO HERMES qui exaltatus ...

Manuscript: same, 86<sup>r</sup>-87<sup>v</sup>

48. Secreta Hermetis

Inc.: CONSIDERA AUTEM nobilem ...

Expl.: ... crocea remanente.

Manuscript: \*Paris BN 7158, 14-15c, 53<sup>v</sup>-54<sup>v</sup> (acc. Corbett, p. 86)

49. Dicta Hermetis

Inc.: HOC OPERA quatuor modis in stellato per allembicum ...

Manuscript: Paris BN 14005, 14-15c, 70<sup>v</sup>-80<sup>r</sup>

Tracts not here described

50. Liber secretorum, Nantes 98

51. Practica (inc.: ACETUM UINI sic preparatur ...), Venice fa 323 (TK 11)

52. De alchemia secretum, Vienna 12886, 16c, 81<sup>rv</sup>

53. Fragmenta duo chemica, Vienna 1427, 17c, 98<sup>r</sup>

54. De quibusdam medicinis et coniunctionibus planetarum (inc.: QUANDO SATURNUS est in signo igneo ...) (cf. no. 45 above), Argentré I ii 326, pt. 2 (TK 546)

55. Liber de dispositione mundi et motibus orbium, Basel (acc. Houz. 903)

56. Prefatio et epistola de tribus uiris quibus nomen Hermes ... (Inc.: Dixit Hermes ...), Boulogne 1062, 14c, 47<sup>r</sup>-54<sup>r</sup> (TK 214)

57. Varia, Oxford Digby 119

58. No title, Cambrai 922/821, 15c, 1-38  
 59. No title, Boulogne 747, 15c, 83<sup>r</sup>-84<sup>r</sup> (inc.: INTELLECTUM SERMONUM ...) (TK 356)

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## Dorotheus

### 8.—Dorotheus

Author: The forms Dorochius, Doronius, and Doratius always represent, presumably, Dorotheus Sidonius. The most important research on extant fragments of this author was done by Viktor Stegemann. In his *Astrologie und Universalgeschichte*, Leipzig, 1930, pp. 12-17, he reconstructed large parts of the *Pentateuchos* from Greek and Arabic fragments, the former, in verse, cited by Hephaestion of Thebes. This study continues Stegemann's investigations of the *Fragmenta metrica* reported in CCAG 6, 1903, 91-113. Stegemann also found important fragments in the works of Sahl and of ibn abi 'r-Rijāl, whom see. I do not believe that he or others have yet coördinated other fragments from at-Tabarī and the *Liber nouem iudicum*, which see.

Arabic: the existence of a major work translated from Dorotheus is attested by Abū Bakr (edit. Venice 1492, chap. 164, fol. E1<sup>r</sup>: Dixit Dorochius in 5<sup>o</sup> libro: Aspice dominos triplicitatis ...). This translation has been attributed to Theophilus of Odessa, 8th c. Krause, p. 440, identifies an Arabic text in 68 folios as the *Pentateuchos* of Dorotheus.

#### Longer Fragments

Texts: those not associated with standard compilations such as the *Liber nouem iudicum*.

#### 1. Electiones indorum et Doronii

Text: According to Millás, *Trad.*, 157, this tract corresponds to John of Seville's *Epitome astrologie*, edit. 1548, bk. 4, chap. 18. Since it deals with the lunar mansions, I suggest further relationship with Ibn abi 'r-Rijāl 7.101, which is John's probable source for this material, and in which the several parallel doctrines are set side by side.

Inc.: CUM EST LUNA in aliqua 28 suarum mansionum, quarum prima cornua dicitur Arietis ...

Expl.: ... in motu Solis a circulo recto a 12<sup>o</sup> Arietis.

Sign.: Hoc tempore 1142 annorum Christi.

Manuscript: \*Madrid BN 10063, 13c, 11<sup>r</sup>-12<sup>r</sup>

#### 2. De electionibus in horis

Text: a short tract or chapter.

Contents: the 'hora' of each planet, but not in the traditional order (Saturn appears after the Moon), hence perhaps defective. Inc.: HORA SOLIS INFORTUNA [for -ata ?] est in omni re nisi propter intrando (?) ad regem ...

Expl.: ... que sibi nota non erunt, bonum est adrentarius (?) terras cauare.

Manuscript: \*\*Cambridge Pembroke 204, 15c, 76<sup>v</sup>-77<sup>r</sup>  
 Munich 59, 15c, 277<sup>v</sup> (Zinner 7924)

#### 3. Doratius in uenalibus

Text: 12 lines of manuscript, possibly a fragment of the *Liber nouem iudicum*. It is preceded (higher on 76<sup>r</sup>) by: Dixit Alfadal filius Albezehel [Sahl ?]: QUANTITATE (?) QUESITUM fuerit ..., on 'fortuna' according to planetary aspects (expl.: ... in domo Lune aut louis uel Ueneris).

Inc.: QUANDO SCIRE UOLUERIS carestiam ...

Expl.: ... augendo et minuendo.

Manuscript: \*\*Florence BN J III 28 (S. Marci 180), 14c, 76<sup>r</sup> (= 102<sup>r</sup>)

#### 4. Doratius in Luna

Text: one full column of manuscript.

Contents: judgments on the Moon in the signs of the zodiac and in other aspects.

Inc.: NEC [for HEC ?] SUNT SPECIALES significationes Lune in esse ac negotiis capti ... Quando Luna ...

Expl.: ... exhibit de carcere cum labore et per res miraculosas.

Manuscript: \*\*Florence BN J III 28 (S. Marci 180), 14c, 76<sup>v</sup> (= 102<sup>v</sup>)

#### 5. Appended text

Text: no attribution, but treating the same materials as no. 4 above and apparently part of the same compilation.

Inc.: Dicit Noffil qui didicit hoc in causa capti: QUANDO FUERIT ASCENDENS Anes uel Scorpio ...

Manuscript: \*\*Florence BN J III 28 (S. Marci 180), 14c, 76<sup>v</sup> (end not seen)

#### Fragments in several compilations

6. AD PERFECTAM [prescientiam] eorum ... 16.1.488

7. ASCENDENTE ANNI in primis locato ... 16.1.489

8. ASPICE DOMINUM domus ... 2.1 (ed. 1551, p. 121)

9. CUM ALIQUIS occultauerit tibi annulum ... 1.9.4, 1.10.2

10. CUM ECCEIDERINT domini triplicitatis ... 2.1 (p. 119)

11. CUM INTERROGATUS fueris de thesauro ... 1.9.3, 1.10.5

12. CUM UIDERIS Lunam impeditam ... 3.1 (ed. 1551, p. 104)

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## New Traditions

13. HYLECH CONIUNCTUS fuerit malo ... 2.1 (p. 122)
14. INTER ARABUM astrologos Abuali ... 16.1.490
15. PLUIIARUM [DIUINARUM] ITAQUE dux ... 16.1.486
16. PRO UENALIIUM rerum status ... 16.1.257
17. QUOTIDIANOS RURSUM imbres ... 16.1.493
18. QUOTIENS ITAQUE Luna eundem ... 16.1.485
19. RURSUM NEGOTIANDI questione preposita ... 16.1.252
20. SATURNUS ET IUPITER et Mars cum fuerint orientales ... 2.1 (p. 121)
21. SI AUTEM de imbrium ... 16.1.492
22. SI QUIS de uita fecerit ... 16.1.12
23. SOL NON sit hylech ... 2.1 (p. 120)
24. SOLE ITAQUE primum Libre ... 16.1.491
25. TEMPESTIUA ITAQUE imbrium uentorum ... 16.1.484
26. TUNC TRIBUETUR eis filius in eodem anno ... 3.1 (p. 110)

### 9.—Jirjis [Gergis]

Author: unidentified, perhaps Georgius Antiochenus [11th c.], or Jirjis ibn al-'Amid, see Th. 2.718-719, *Bibl. Math.* 6, 1905, 237, *ZfM* 16, 1871, 370. For numerous fragments see *Liber nouem iudicum*.

Significance: slight, quoted by European writers from compilations such as *Liber nouem iudicum*, but merely by way of documentation.

#### 1. De significatione septem planetarum in domibus Zergis

Text: presumably a complete and substantial unit in the ms., followed by an anonymous *De quolibet aspectu Lune cum planetis* (54<sup>v</sup>-56<sup>r</sup>, inc.: LUNA CUM SATURNO ..., expl.: ... bicorporeo signo laudanda sunt).

Contents: prognostications according to each planet in each house, suggesting the framework of *Liber nouem iudicum*, borrowed from Sahl (see 1.16.1, 13, etc.).

Inc.: SATURNUS IN ORIENTE [in natiuitate is said in this position of Mars] pro lege autem (?) agris reddit solacium. In secundo ...

Expl.: ... non hec sed remissius exponatur.

Manuscripts: \*\*Erfurt 4° 372, 14c, 50<sup>v</sup>-54<sup>v</sup>

\*Oxford Bodl. Ashm. 393 (acc. CCAG 10.216)

Paris BN 7332 (acc. CCAG 10.216)

#### 2. Liber Belemith de imaginibus septem planetarum

Text: attributed to Jirjis by TK 210 and Th. 2.234, 718-719; see

*Mélanges Pelzer*, 242-243. In ms. Vatican 1116 this text is appended to 7.21b and entitled *De aliis horis diei 12 practica*. Contents: magic words for incantations.

Collation: The mss. correspond, but the text appears to be an isolated chapter or fragment.

Inc.: Dixit Belenus [Balemiz, Belenith] qui Apollo dicitur [uocatus est Apollo]: IMAGO PRIMA FIT in prima hora diei ad figandas omnes linguas ut non loquantur ...

Expl.: ... nomen diei Saturni hadah.

Manuscripts: \*\*London BM Royal 12 C 18, 14c, 12<sup>r</sup>-15<sup>v</sup> (end not seen)

\*Vatican Palat. 1116, 15c, 115<sup>v</sup> (acc. *Mél. Pelzer* 242)

\*\*Vatican Palat. 1375, 15c, 270<sup>r</sup><sup>v</sup>

#### 3. Theorica Girgith de arte magica [artium magicarum]

Contents: presentation of the lunar mansions, incantations using chemicals, etc.

Collation: The ms. is divided clearly into chapters which appear to form a complete cycle.

Prol.: COGITATIO FUT RES que me ad hoc opusculum prouocauerit qui uidi propriis oculis mirabilia ... Sequitur dicta Girgith.

Inc.: Ego Girgith filia artis [i.e. Circis ?] uolo uobis dicere ...

Cap. 1: Dixit Girgith: QUOD PLUS IN ARTE magica considerauit ...

Expl.: ... in magica operari uoluerit et est finis huius tractatus Deo gratias.

Manuscript: \*\*Erfurt 4° 354, 14c, 60<sup>v</sup>-62<sup>v</sup>

#### 4. Gergis de fortuna latronis

Manuscript: London BM Sloane 3277, 14-15c, 3<sup>v</sup>

#### 5. Gergis de thesauro uel qualibet re occultata

Text: compare 16.1.23, the first six words are identical.

Manuscript: London BM Sloane 3277, 14-15c, 5<sup>v</sup>

Fragments noted elsewhere in the present lists

6. IN HUIUSMODI cognitione habenda dominus ... 16.1.258

7. GRADUM ENIM quod orientalis ... 16.1.14

8. ORIENTALIS FACIEI dominus quot ... 16.1.13

9. SATURNUS CUM FUERIT in ascendente ... 1.6

10. SATURNUS FRIGIDUS et siccus seruos ... 15.1.13

11. SI IGITUR annalis [in animalibus] conuersionis ... 16.1.260

12. SI UERO QUID per singulos ... 16.1.259

13. SOL CONSURGIT in ascendente ... (*De significatione planetarum in ascendente*, acc. *Lic.*)

14. SOL IGITUR quotiens ingreditur ... 16.1.494

15. SURANUS (?) ERGO omnium rerum opifex ... 15.1.10

Bethem

Author: unidentified; see Nal. 1.xxviii, Th. 2.927.

1. Centiloquium

Arabic: mss. Escorial 517, 966. One hundred aphorisms as in Ptolemy and Hermes, but more technical and with more direct reference to aspects. Said to exist with commentary by Aḥmad b. Yūsuf ibn ad-Dāyah; also ascribed to Abraham ibn 'Ezra as *De consuetudinibus*.

a. Plato of Tivoli (?)

Translator: or Peter of Abano, see *Isis* 35 (1944), 299.

Collation: Omn. 3 and 5 are complete and good, omn. 13 was based on an inferior ms.

Title: Nunc inchoabo librum de consuetudinibus in iudiciis stellarum [astrorum].

Prop. 1: SCIAS QUOD PLANETE quando sunt retrogradi sunt ut uir infirmus stupefactus ...

Prop. 100: ... planeta in domo sua aut domo exaltationis sue saluus ab infortuna.

Editions: omn. 1; omn. 3, 118<sup>v</sup>-120<sup>r</sup>; omn. 5, 93<sup>r</sup>-95<sup>v</sup>; omn. 7, 108<sup>v</sup>-109<sup>v</sup>; omn. 9, pp. 89-93; omn. 13, 89-93; omn. 17, 77-92.

Manuscripts: Cues 207, 14c, 135-137

Florence BN I III 28, 103<sup>r</sup>-104<sup>r</sup>

\*Florence BN J III 28 (S. Marci 180), 77<sup>r</sup>-78<sup>r</sup>

\*Florence Laur. Ashb. 129 (203/135), 16c, 67-72<sup>v</sup>

\*Ghent 416(5), 15c, 46<sup>r</sup>-48<sup>r</sup>

\*Munich 275, 15c, 193-196<sup>r</sup>

Oxford Ashm. 357, pt. 11

Oxford Canon. misc. 190, 15c, 57<sup>r</sup>-59<sup>r</sup>

Oxford Canon. misc. 517, 15c, 31-33

Oxford Corpus Christi 101, 197-199

Oxford Rawl. D 1227, 14c, 51<sup>v</sup>

Paris BN 7316A

Paris BN 7336, 91<sup>r</sup>-93<sup>v</sup>

Paris BN 7438, 138<sup>v</sup>-142<sup>v</sup>

Paris BN 10269, 15c, 99<sup>r</sup>-102<sup>r</sup>

\*\*Paris BN fr. 613, 14c (inc.: Je commencheray ...; expl. prop. 31: ... Quant li planette sont retrograde)

\*\*Vatican Ottob. 1552, 15c, 87<sup>v</sup> seq.

Vatican Palat. 1369, 15c, 55<sup>v</sup>-56<sup>v</sup> (end lost), 139<sup>r</sup> (fragment)

\*Vienna 2378, 14-15c, 22<sup>r</sup>-23<sup>v</sup> (Saxl)

\*Washington Lib. Cong. 123, 15c, 68<sup>r</sup>-71<sup>r</sup>

Zurich B 244, 15c, 77<sup>r</sup>-78<sup>v</sup>

2. Libellus de horis planetarum

Text: twelve short chapters on prognostications by hours of each planet; for further excerpts and remarks see Nal. 1.xxviii-xxix. Collation: omn. 3 good, also omn. 5 reprinted in omn. 9 and 13; ms. Florence complete and good.

Rubr.: De horis planetarum et primo de hora Saturni.

Inc.: CUM FUERIT HORA Saturni bonum est emere res grauis nature ut ferrum stagnum plumbum et omnia metalla ... vero uis celeritatem bonum est incipere.

De ortu triplicitatum. SI FUERIT in ortu Aries Leo uel Sagittarius quia sunt ignea ... concordēs horas cum signis quia optimum est et quod diximus de Saturno sic intellige de omnibus aliis planetis.

Editions (with his *Centiloquium*): omn. 3, 120<sup>r</sup>, omn. 5, 95<sup>v</sup>-96<sup>r</sup>; omn. 7, 108-109; omn. 9 and 13, 110-112 (= 100-102).

Manuscripts: \*Florence Laur. Ashb. 129 (203/135), 16c, 72<sup>v</sup>-75<sup>v</sup> (including *De ortu triplicitatum* 74<sup>v</sup>-)

\*Vienna 2378, 14c, 123<sup>v</sup>-127

11.—Al-Qalandar [Arcandam]

Author: unidentified. The Latin forms are confusing and may indicate several intended authors: Arcandam, Calendrinus, Alcandrus, Alchandreus, Alhandreus; once, al-Kindī is transliterated as Alchandri. See *ZDMG* 18.135-139, 142, 25.396, Steins. 30, Th. 1.710-719, *Osiris* 1.666 seq. Other texts in Paris BN 7349.5, 7457.2, Boston Medic. 20, 51<sup>r</sup>. On references to Argafalau see 11.12 below.

1. De ueritatibus et predictionibus astrologie

Text: attributed to Arcandam, see *ZDMG* 18.137 (source of all details below); deals with lunar mansions.

Prol.: Incipit summa breuissima tamen certissima ... edita ab Aleandrino ...

Inc.: MODUS AUTEM INUENIENDI predictum fatum ...

Editions: 1542, Paris: apud Viv. Gaultherot (excudebat ... 1541 mense Octobri)

1576, Lyon (in French), etc. (acc. *ZDMG* 18.137)

1578, London (in English), etc. (acc. *id.*)



## 2. De iudiciis et natura stellarum

Inc. CUM SINT 28 MANSIONES Lune secundum 12 signa in firmamento ...

Inc. book 2: Stella qui est in orbe non differt ab orbe ...

Manuscript: Oxford All Souls (cat. Coxe p. 24, no. 81, dated 1474, acc. ZDMG 18.135)

## 3. Liber Alchandreï

Title: Mathematica Alchandreï summi astrologi.

Contents: quotes Argafalau, names mansions in Arabic, may be a translation from Hebrew.

Inc.: LUNA EST FRIGIDE nature et argentei coloris ...

Edition: 1542, Paris, by Richard Roussat (acc. Sarton 1.671)

Manuscripts: Cues 214, 14c, 20<sup>r</sup>-27<sup>v</sup>

\*London BM addit. 17808, 11c, 85<sup>v</sup>-97<sup>r</sup>

\*Munich 560, 11c, 61<sup>r</sup>-77<sup>r</sup>(-87<sup>r</sup>?)

\*Paris BN 17868, 10c, 2<sup>r</sup>-10<sup>v</sup>

\*Vatican 4084, 13c, 1<sup>r</sup>-6<sup>v</sup>

\*Vatican Palat. 1416, 15c, 118<sup>r</sup>-122<sup>r</sup>

## 4. Tract

Author: also attributed by marginal cribs to Alexander astrologus.

Inc.: QUOMODO POSSIT SCIRI ...

Manuscripts: London BM addit. 17808, 11c, 97<sup>rv</sup>

Munich 560, 11c, 76<sup>rv</sup>

Paris BN 17868, 10c, 10<sup>v</sup>

## 5. Tract

Text: on lunar mansions; see TK 576.

Inc.: QUICUMQUE NOSSE desiderat legem astrorum ...

Manuscripts: \*Paris BN 17868, 10c, 14<sup>r</sup>

Vatican 4084, 13c, 2<sup>v</sup> (?)

## 6. Breuiarium Alchandreï

Inc.: NOMEN AUT COGNOMEN hominis inauditum ...

Manuscripts: \*London BM addit. 17808, 11c, 99<sup>rv</sup>

\*Munich 560, 11c, 84<sup>v</sup>-87<sup>v</sup>

Paris BN 4161, 16c, 67<sup>rv</sup> (?)

\*Vatican 4084, 13c, 7<sup>r</sup>

## 7. [Text]

Inc.: Igitur quoniam in hac arte utilissimum ...

Manuscript: Vatican 4084, 1<sup>r</sup>-14<sup>v</sup> (TK 311)

## 8. Epistola Argafalau caldei ad Alexandrum

Text: see *Osiris* 1.674; ZDMG loc. cit. suggests Iştafân (Stephanus) for Argafalau.

Inc.: REGI MACEDONUM Alexandro astrologo ...

## 9. Liber Calendrinus

Manuscript: Boncompagni 147, 90-102 (acc. ZDMG 18.136)

## 10. Tractatus Alcantari caldeorum philosophi

Text: G. A. Plimpton, *The Education of Chaucer*, 1935, p. 128, reproduced an interior passage from his ms.

Contents: on eclipses, with diagrams.

Manuscript: \*New York, G. A. Plimpton 161, 13c, 30 fols.

## 11. Epistola de futurorum scientia

Text: authorship dubious; description of eastern marvels related to Alexander stories.

Title: Incipit epistola Alkandi Achalif de Baldac philosophi prudenti uiro amico suo karissimo Theodoro inuictissimi cesaris Philippo Alkindus alcalif de Baldach sacerdos et philosophus salutem in omnipotente.

Prol.: NOSSE CUPiens diuersitates hominum et linguarum accessi persarum ...

Inc.: MACEDUM REX ALEXANDER deuictis gentibus in partibus orientis gentes aspectu terribiles gustu fetidas ...

Expl.: ... populus in prouincia sine lege et fide. Hunc ... iam faciem terre incipit occupare in tribus exercitibus dispersita.

Explicit ... philosophi.

Manuscript: \*\*Paris BN 6978, 14c, 62<sup>v</sup>-64<sup>r</sup>

## 12. De sententiis Argafalau philosophi

Text: not associated with al-Qalandar, but 'Argafalau' is one of his sources. The tract seems to be composed of collected parts or chapters.

I. Cum Argaphalau phylosophum plurimum in hac scientia ualuisse didicimus ...

II. Dixit et idem Argafalau ...

III. Dixit ille idem phylosophus quod si sub Ariete ...

IV. Prodidit preterea aliud dicens quod si quis iter agere ...

V. Adiunxit etiam Argafalau dicens ...

VI. De questione autem argumentis ...

VII. Quod si eorum alter alteram non ...

Manuscript: \*Madrid BN 10009, 13c, 137<sup>v</sup>-143<sup>r</sup> (Mill.)

## 12.—Al-Kindī [Alkindus]

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Al-Kindī

Author: Ya'qūb ibn Ishāq ibn aṣ-Ṣabbāḥ al-Kindī, Abū Yūsuf, born in Basra, active in Bagdad, died after 256/870; see Br. '98, 209-210, '37, 372-374, Sarton 1.559-560, Th. 1.642-649, G. Flügel, *Al-Kindi*, Leipzig, 1857. Regarding the 'errors' of al-Kindī and others see ms. Erfurt 4° 151, 17<sup>v</sup>-19<sup>r</sup>.

Works: numerous and varied, the best known in Europe are those on meteorology and philosophy. For many astrological fragments as yet unidentified see *Liber nouem iudicum*.

Significance: esteemed in Europe, but the many quotations have not been identified and the relative importance of the several works cannot be estimated.

### 1. De iudiciis astrorum

Arabic: *Risala fi 'l-qadā' 'ala 'l-kusūf*, ms. Escorial 913 (Br. no. 11).

Contents: 45 chapters, astrological judgments accompanied by astronomical theory.

#### a. Robert of Chester (1272)

Collation: None has been made to date except of the prologue, quoted by Haskins, 121, and Karpinski (see under al-Khwārizmī), p. 31. Mss. Digby contains the details noted below.

Translation: also attributed to Hermann Contractus.

ProL.: QUAMQUAM POST EUCLIDEM Theodosii cosmometrie libroque proportionum ... postulantibus, mi Hermanne ...

Inc.: CIRCULUS ITAQUE SPERICUS cuius atque terre centrum est ...

Expl.: ... cuiusuis letum alius eiusdem familie mors sequetur in proximo.

Editions: \*1507, Venice (omn. 6)

\*1509, Venice (omn. 7)

Manuscripts: Dublin Trinity (acc. Houz. 3856)

Leyden Univ. cat. p. 388, part 52 (acc. Houz. 3856)

London BM Cotton app. vi, 109<sup>v</sup>-156<sup>v</sup>

London Gresham College (acc. Houz. 3856)

Oxford Ashmole 179, part 4

Oxford Ashmole 209, part 3

Oxford Ashmole 369, 85 seq.

Oxford Ashmole 434, part 6

\*Oxford Digby 51, 13c, 55-79

\*Oxford Digby 91, 16c, 80-127

## 2. De aspectibus

Text: *Iṣlāḥ al-manāẓir*, 23 chapters, based on Euclid and Ptolemy, dealing with optics.

### a. Gerard of Cremona

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New Traditions

Collation: Edit. 1911, presumably definitive, is based on mss. starred below.

Title: *Liber Iacob Alkindi de causis diuersitatum aspectus et dandis demonstrationibus geometricis*.

Inc.: OPORTET POSTQUAM OPTAMUS complere artes doctrinales et exponere in eo quod antiqui premiserunt ...

Expl.: ... ergo DG minor sentitur angulo minore qui est DAG, et maior angulo maiore qui est BAG. Et illud est quod demonstrare uoluimus.

Edition: \*\*1911, Leipzig, by A. Bjørnbo, *Abhand. z. Gesch. der Math.*, pp. 3-41 (with notes, pp. 42-70)

Manuscripts: \*Basel F II 33, 14c, 122<sup>v</sup>-127<sup>r</sup>

\*Cracow 569, 14c, pp. 250-261

London BM Harley 1, 14c, 41-53

\*Milan Ambros. P 21 sup., 15c, 135<sup>r</sup>-162<sup>r</sup>

Milan Ambros. T 100 sup., 14c, 1<sup>r</sup>-18<sup>v</sup>

\*Oxford Ashmole 357, pt. 15 (expl.: ... per lineam UZ)

Oxford Corpus Christi 254, 14-17c, 191-199

Oxford Digby 168, 13-14c, 129 (fragment)

\*Oxford Savile 24, 16c, 139<sup>r</sup>-167<sup>v</sup>

\*Paris BN 9335, 14c, 75<sup>r</sup>-82<sup>r</sup>

Paris BN 10260, 16c, 153<sup>r</sup>-169<sup>r</sup>

\*Rome Coll. Rom. H C 93, 16c, 107<sup>r</sup>-122<sup>v</sup> (end lost)

\*Vatican 2975, 16c, 216<sup>r</sup>-231<sup>v</sup> (end lost)

### 3. De pluuiis

Arabic: *Risala fi 'illat ath-thal- (?) wa 'l-barad wa 'l-barq ...*, Br. '98, no. 5, '37 Physik no. 9.

Contents: astrological phenomena explained according to the lunar mansions and to planetary aspects in retrogradation, etc.

Significance: presumably the work most often quoted in Europe and hence the basis of meteorological sciences in this tradition.

#### a. Agozont

Collation: Ms. Vienna appears to be complete and is properly divided into chapters. Ms. Erfurt 8° 84 lacks the invocation and preface, and is followed immediately by APERTIO PORTARUM (12.4 below). The presentation in edit. 1507 suggests that this work may be formed of several tracts. B1<sup>v</sup>

on the lunar mansions, and again B4<sup>r</sup> (Aries habet ... nathu que et saran et batini ...).

Title: Liber Alkindi de nubibus et pluuiis et tonitruis et fulgetris et uentis et accidentium suorum; Epistola Alkindi de aeribus et pluuiis cum sermone aggregato utili et perfecto translato a magistro Agozont de Arabia; De impressionibus aeris.

Invoc.: In nomine Dei pii et misericordis et laude ...

Pref.: UOCATUS [ROGATUS] FUI QUOD manifestarem consilia philosophorum in quibus concordarunt de impressionibus superioribus et accidentibus aeris ...

Inc.: Primum caput libri [+ Alchindri] de nubibus et pluuiis et tonitruis ... PHILOSOPHI CONCORDAUERUNT ad [in] hoc quod natura celi est una. Fiet dixerunt talis planeta ...

Cap. 8 (from Mâshâ'allâh): INSPICE IN REVOLUTIONE anni ad ascendens et angulos ...

Expl.: ... nec erit in eo motus nec uox similiter fac quando erit questio de pluuiis [-iis]. Et hoc sufficit in hoc quod interrogasti.

Editions: \*\*1507, Venice (omn. 5), A2<sup>r</sup>-B1<sup>v</sup> (caps. 6 seq. B1<sup>v</sup>-B4<sup>r</sup>) 1540, Paris (acc. Houz. 3850)

Manuscripts: Breslau Univ. 1475, 15c, 70<sup>v</sup>

Cambridge Univ. Kk 4 2, 13c, 8-13

Cracow 739, 15c, 212<sup>r</sup>-228<sup>r</sup>

Cracow 1843, 15c

Cracow 1865, 15c, 138<sup>r</sup>-141<sup>r</sup>

Cracow 1968, 15c, 31<sup>r</sup>-32<sup>r</sup>

Cues Hosp. 208, 14c, 53<sup>v</sup>-58<sup>v</sup>

Cues Hosp. 212, 15c, 227-234

\*\*Erfurt 2° 395, 14c, 127<sup>v</sup>-134<sup>r</sup>

\*Erfurt 4° 352, 13-14c, 6<sup>r</sup>-11<sup>v</sup> (expl.:

\*Erfurt 4° 374, 14c, 88<sup>v</sup>-96<sup>v</sup> (Tit.: De imbribus; De impressionibus in aere)

\*\*Erfurt 8° 84, 14c, 53<sup>r</sup>-63<sup>v</sup> (Tit.: De impressionibus meteorologicis; followed by "Apertio portarum ..." below no. 4)

Ghent 416, 15c, 105<sup>v</sup>-107<sup>v</sup>

Jena El. 2° 72, 15-16c, 48<sup>v</sup>-49<sup>r</sup>

Munich 125, 15c, 292-293

Munich 11067, 15c, 86<sup>r</sup>-94<sup>r</sup>

\*Oxford Digby 68, 14c, 124<sup>r</sup>-135 (end not seen)

\*Oxford Digby 176, 14c, 61<sup>r</sup>-63 (first four caps.)

Paris BN 7332

Paris BN 7439

Paris BN 7447, pt. 3

Prag 433 (III C 2), 15c, 63<sup>rv</sup>, 167<sup>r</sup>-169<sup>v</sup> (acc. TK 641)

Prag 1144, 15c, 113<sup>r</sup>-122<sup>v</sup>

\*\*Vienna 2436, 14c, 198<sup>r</sup>-206<sup>r</sup> (Tit.: De significationibus planetarum alias de pluuiis)

#### 4. De impressionibus aeris

Contents: meteorological prognostications; the text may have been revised by John of Wasia. Compare for content Leopold 6.3.16 (edit. p. 89).

Collation: Mss. Erfurt and Vienna are complete, in Erfurt 4° 363 this tract is run together with 3.12 (Sahl, expl.: ... in libro mundi).

Title (acc. ms. Vienna): Iudicium quoddam particulare de pluuiis et uentis.

Inc.: APERTIO PORTARUM dicitur dum [cum] coniungitur planeta inferior superiori. Et fuerint cum hoc domus eorum opposite. Portarum apertiones sunt coniunctio Solis uel Lune cum Saturno ...

Expl.: ... omnibus que possidet et in suo corpore absque amissione anime.

Sign.: Explicit Alkindus de impressionibus aeris.

Manuscripts: \*\*Erfurt 4° 363, 13-14c, 75<sup>rv</sup>

\*\*Erfurt 8° 84, 14c, 64<sup>r</sup>-65<sup>r</sup> (and see Saxl 2.130)

Munich 2841, 13<sup>rv</sup> (TK)

Prag 433, 189<sup>v</sup>

\*\*Vienna 3162, 15c, 233<sup>r</sup>-234<sup>v</sup>

#### 5. De planetis sub radiis

Contents: each planet 'sub radiis' in each sign of the zodiac, for astrological prognostications.

Text: also attributed to 'Haly' (mss. Vienna 3162, Oxford Digby 93, 147), to Mâshâ'allâh, and to Hippocrates (ms. Oxford Canon.).

Collation: Mss. Florence, Oxford Canon. and Digby 147 are complete, the others with [\*] attest the incipit and explicit.

Title: Haly de sub radiis; De pluuiis; De pluuiis et impressionibus.

Inc.: SATURNUS IN ARIETE sub radiis facit pluuias et radiositates et nebulositates plurimas; in hominibus autem facit infirmitates ...

Expl.: Mercurius in Piscibus ... matutinus tranquilissimus [frigidissimus] est et bonam complexionem ostendit.

Manuscripts: Basel F II 10, 172<sup>v</sup>-174<sup>r</sup> (acc. Th.)

Basel F III 8, 15c, 58<sup>v</sup>-59<sup>r</sup> (acc. Th.)

\*\*Cambridge Pembroke 204, 15c, 68<sup>r</sup> (incipit not seen)

\*Douai 715, 14c, 73<sup>r</sup>-78 (inc. only)

\*\*Erfurt 4° 343, 15c, 183<sup>r</sup>-184<sup>r</sup> (attrib. to Haly Abenrudian, first and last folios seen)

\*\*Florence Laur. Ashb. 206 (132/138), 15-16c, 67<sup>v</sup>-69<sup>r</sup>

Ghent 416/5, 15c, 105<sup>v</sup>-107<sup>r</sup>

London BM Cotton app. vi, 78<sup>v</sup>-80<sup>r</sup> (acc. Th.)

Munich 958, 15c, 1-6 (by title only)

\*\*Oxford Canon. misc. 517, 15c, 20<sup>r</sup>-21<sup>v</sup>

\*Oxford Digby 93, 15c, 183<sup>v</sup>-184<sup>v</sup> (ends abruptly at beginning of Chap. 6)

\*\*Oxford Digby 147, 15c, 117<sup>v</sup>-119<sup>r</sup>

Paris BN 7332

Prag 433, 63<sup>rv</sup>

\*\*Vienna 3162, 15c, 225<sup>r</sup>-226<sup>v</sup> (attributed to Haly and/or al-Kindi)

#### 6. De radiis stellarum

Text: perhaps his *Risala fi 'sh-shu'â't*, see Br. '37, 374; discussed as such at length in Th. 1.642-646.

Collation: Incipit and explicit are well attested in mss. with [\*] below.

Inc.: OMNES HOMINES QUI sensibilia sensu percipiunt ...

Expl.: ... hiis qui secreta celestis et elementaris nature notitiam habent.

Sign.: Explicit theorica artis magice.

Manuscripts: Basel F III 34 (acc. Br. '37)

\*Bruges 486, 14c, 174<sup>r</sup>-179<sup>v</sup>

\*Cambridge Trinity 936, 17c, 1-25

Erfurt 4° 349, 14c, 47<sup>v</sup>, 65<sup>v</sup>-66<sup>v</sup>, 16<sup>rv</sup>, 29<sup>r</sup>

\*London BM Harley 13, 13c, 166-174 (acc. Th. 1.643)

\*Oxford Canon. misc. 370, 240-259 (acc. Th.)

\*Oxford Digby 91, 16c, 66-80

\*Oxford Digby 183, 14c, 38-45

\*Oxford Rawl. C 117, 13 or 15c, 157-169

\*Oxford Selden supra 76 (Bernard 3464)

Oxford Selden 3467, part 4

\*Paris BN 16097, 14c, 200<sup>r</sup>-203<sup>r</sup>

Paris BN nouv. acq. 616, 15c

Paris Ste-Geneviève 2240, 17c, 42

\*Prag 1323, 14c, 134<sup>v</sup>-138<sup>v</sup> (end lost)

\*Prag 1323, 14c, 139<sup>r</sup>-147<sup>v</sup>

#### 7. Dispositio de planetis

Inc.: PER HOC UERO ad influentias planetarum ...

Expl.: ... ab illis superioribus.

Manuscript: \*Erfurt 4° 377, 14c, 5<sup>v</sup>-6<sup>v</sup>

#### 8. De accidentalibus stellarum proprietate

Text: perhaps related to *Liber nouem iudicum*, which it precedes in the ms. and the style of which it uses. The text in the ms. is apparently complete.

Inc.: HIIS IGITUR TALITER executis inter cetera omnia necessarium (?) occurrit ...

Expl.: ... confusio quoque propositam multa ambiguitate frequenter implicant.

Manuscript: \*\*Erfurt 4° 372, 15c, 139<sup>v</sup>-141<sup>v</sup>

#### 9. Luna in signis tropicis

Title: Luna in signis tropicis et bipartitis quod significet Alkindus.

Inc.: LUNA IN SIGNIS tropicis omnia citius alternat negotia unde ...

Expl.: ... uictoria ac triumphus Luna in bicorni signis (?) laudanda sit.

Manuscript: \*\*Erfurt 4° 372, 14c, 55<sup>v</sup>

#### Philosophical tracts

Texts: not related to the astrological sciences and here given in summary form. They are well known through the excellent edition by A. Nagy, in *Beiträge z. Gesch. der Philos. des Mittelalters* 2.5, 1897, who used and listed most of the known mss.

#### 10. De quinque essentiis

Text: astrological applications of Aristotelian physics. Latin by Gerard of Cremona.

Inc.: SAPIENS ARISTOTELES ubi dialecticam incepit dixit quod scientia ...

Expl.: ... inter preteritum ex eo et inter futurum.

Edition: by Nagy, pp. 28-40 (10 mss.)

#### 11. De intellectu

##### a. John of Seville

Inc.: INTELLEXI [-ISTI] QUOD QUERIS scilicet scribit [-i] tibi sermonem breuem ...

Expl.: ... intentionem tuam de hoc tantum sermonis sufficiat.

Edition: by Nagy, pp. 1-11 (9 mss.)

##### b. Gerard of Cremona

Inc.: INTELLEXI QUOD QUESIUISTI de scribendo sermonem in ratione abbreviatum ...

Expl.: ... cum sit intentio mea sermo enuntiatus sufficiat.

Edition: by Nagy, pp. 1-10 (3 mss.)

#### 12. De somno et uisione

Text: translated by Gerard of Cremona; see Th. 1.646.

Inc.: TU CUI DEUS occultorum ueritates patefaciat et quem in domo uite ...

Expl.: ... locum tuum in speculatione et eius est hec epistola.  
Edition: by Nagy, pp. 12-27 (and 8 mss. to which add Digby 40, 15<sup>v</sup>-25)

## 13. De militia seculi

Inc.: SCIENTIA ASTRORUM diuiditur in duo: in demonstrationes que sunt certe ...

Manuscripts: \*Limoges 9/28, 15c, 129<sup>v</sup>-135<sup>v</sup>

\*Oxford Digby 194, 15c, 111<sup>v</sup>-113<sup>v</sup>

Vatican Palat. 1122, 124 (?)

## 14. Liber secretorum de operatione Aquarius candide

Contents: alchemical.

Prol.: UT EX ANTIQUORUM scientia philosophorum precipitur esse circolorum genus ...

Inc.: SUMMATUR ERGO auripigmentum et in uase uitreo ponatur ...

Expl.: ... unum merchals in solem transformat.

Appended text: Prima aqua sic fit ... (alchemical) ... congelatus et fixus.

Manuscript: \*\*Vatican Palat. 1328, 15c, 45<sup>v</sup>-48<sup>v</sup> (appended text 48<sup>v</sup>-49<sup>r</sup>)

## 15. Liber introductorius in artem logice

Prol.: In nomine piissimi ...

Inc.: POSTQUAM IAM LOCUTI sumus de predicabilibus quot sint species ...

Expl.: ... ad cognoscendam ueritatem et ad faciendam bonitatem.

Edition: by Nagy, pp. 41-64 (2 mss.).

## Medical tracts

## 16. Circa signa

Contents: astrological medicine, influences according to the signs of the zodiac, apparently a complete text in the ms.

Title: Alkinda circa signa uniuersalia (?) de astronomia applicata ad principia medicine.

Inc.: CIRCA SIGNA uniuersalia (?) distributina non terreni sed influentie celestis 4 sunt inquirenda. Prima est de circulo in quo ...

Expl.: ... in eis pro inquisitoriis profundantur omnino uani et nichil scientes reperiuntur. Explicit.

Manuscript: \*\*Munich 267, 14c, 84<sup>r</sup>-88<sup>r</sup>

## 17. De gradibus medicine

Text: perhaps his Kitâb fî ma'rîfat quwa ... (Br. medic. no. 3).

Inc.: QUIA PRIMOS UETERES ut de uirtutibus cuiusque medicine singillatim ...

Expl.: ... augmentis dupli supra suam contrariam.

Edition: 1531, Strassburg (in *Elluchasem Elimithar*, reprinted 1581 and 1584, acc. Br. '98, no. 3 and TK 571), pp. 140-163

Manuscripts: Erfurt 2° 257, 14c (parts lost)

Erfurt 2° 286, 13-14c, 180<sup>r</sup>-187<sup>v</sup>

London BM Royal 12 C 15, 13c, 146<sup>r</sup>-148<sup>v</sup>

Paris BN 9335, 14c, 135<sup>r</sup>-139<sup>v</sup>

## 18. De creticis diebus

Contents: medical, philosophical, and astrological, divided into short chapters.

Collation: Ms. Oxford is apparently complete, but parts are all but unreadable.

Inc.: LUCEM CREATORIS [LUCIS CREATOREM] obsecro ut ueritatis lucem pectori meo admittat ea dulcis anime intuitu, ea est bona uisu ...

Expl.: ... et iupiter sit in oppositione uincet Saturnus.

Manuscripts: \*Florence Laur. S. Marci 194, 14c, 105<sup>v</sup>-107<sup>v</sup> (expl.)

\*\*Oxford Digby 47, 14c, 78<sup>v</sup>-83<sup>v</sup>

## 19. Tractatus de annorum peste et salute et imbris

Manuscript: Basel (acc. Houz. 3860)

## 12A.—Ja'far Indus [Gafar]

Author: unidentified; association with Abû Ma'shar is entirely arbitrary.

## 1. De imbris

Authorship: Attribution of part I or III to Hermann is arbitrary and perhaps motivated by his presumed part in the translation. See Th. 1.652, 3.273, ZDMG 18.128, 186.

Sources: Proximity of fragments of the *Liber nouem iudicum* in mss Erfurt 4° 361 and 365, in the same wording, and dealing with topics treated in 16.1.254, 257, and 499, suggests that all this material appeared in a single Arabic document.

## a. Hugh of Santalla

Translator: determined by the prologue. The extended title appears in completely different forms and only in several mss. The Latin style of the text itself is that of Hermann, not of Hugh, and even more likely that of the translator of the *Liber nouem iudicum*.

Contents: There are four separable parts hitherto hidden by over-hasty identifications. It seems probable that part IV is a

separate work, which is confirmed by the fact that the lunar mansions are treated independently in both II and IV.

Collation: I have examined four copies in detail. Paris 7329 is constructed thus: I. Superioris discipline ... largiatur; II. Uniuersa astronomie ... postulat enarremus; III. Cum multa ... steriles. Madrid 10063, like Erfurt 4° 361, 8° 82 and Vatican Palat. 1369, divides II into two parts: I. Superioris discipline ... largiatur; II. Uniuersa astronomie ... partitio; III. Experta cognitio ... Pisces locantur. The contents of the first part of II are essentially the same in both the Paris and the Madrid ms.; the ending in Paris 7329 (enarremus) and in the other copies (locantur) suggest a revision in the former. The reconstruction proposed below is a compromise. I append several fragments from Erfurt 4° 361 and 4° 365 which have been partly integrated with the above and suggest the relationship with the *Liber nouem iudicum*.

Significance: sometimes quoted by Latin writers as a secondary authority on meteorology.

Title (acc. Haskins): Incipit liber imbrum ab antiquo indorum astrologo nomine Iafar editus uero a Cillenio Mercurio abbreviatus. Title (Madrid 10063): Iafar indus de pluuiis seu potius tractatus de pluuiis collectus ex Iafar indo et directus ad dominum Michael Antistitem messallem a quodam Aluaro.

Prol.: SUPERIORIS DISCIPLINE inconcussam ueritatem prout indorum monet auctoritas toto desiderio accedere ... Quia ergo mi domine Antistes Michael ... astrologo Gaffar editum deinde [deinceps] a Cillenio Mercurio ... correctum ... benignitas largiatur.

I. De pluua. UNIUIERSA ASTRONOMIE iudicia prout indorum asseuerat [assierunt, narrat] antiquitas ... Cap. 1: Uenus itaque et Iupiter sunt stelle firdarie (?) ... Cap. 2: Pro imbrum quidem cognitione habenda conuentus et oppositionis horas ... Cap. 3: De mansionibus autem Lune unam intactam pretereuit ... (lists with Arabic names) ... Cap. 4: Quotiens igitur de pluua [-iis] et eius [eorumque] statu et [sed et de] aeris mutatione de uentis ... Cap. 10: Luna itaque in mansionibus equalis ... Expl.: ... discrimina et determinata partitio.

II. De dispositione pluue et aeris. EXPERTA COGNITIO imbrum et uentorum. Uentorum cognitio ex pluuiarum experientia ... inter austrum et eum Aquarius et Pisces locantur [accidant] [Paris 7329: ... uelut ordo postulat enarremus].

III. [Rubr., Paris 7329 only: Capitulum de hiis que superius diffuse dicuntur hic summatim protrahantur.] Liber imbrum. CUM MULTA et uaria de imbrum cognitione precepta indorum tradat [-ant] auctoritas [-ates] ea summatim transferre

[transcurrere] ... De mansionibus quidem Lune indorum ... plerumque [plurium] etiam imbres occurrunt sed steriles.

Appended texts. Liber de apertione portarum. Cap. de urbe obsessa. DE URBE obsessa si quis fecerit ... astrologi prudentia congruum extorquebit iudicium [cf. 12.4, 16.1.499]. Tabula de mansionibus ... PRO RERUM uenialium statu habita questione ... [cf. 16.1.254, 257] ... prestat incrementum.

Editions: \*1507, Venice (omn. 6), C1<sup>r</sup> (prol.)-C4<sup>v</sup> (Pisces locantur, i.e. I-III)

1540, Paris (acc. Haskins p. 77, with al-Kindi no. 3?)

Manuscripts: \*Cambrai 168/163, 14c, 104<sup>r</sup>-(106) (III)

\*Cambridge Trinity 1185, 16c, 116<sup>r</sup>-118 (III)

\*Cambridge Univ. li 1 13, 14c, 61<sup>v</sup>-63<sup>r</sup> (III)

\*Cambridge Univ. Kk 4 2 (Clare 15), 13c, 1<sup>r</sup>-2<sup>r</sup> (III)

Coimbra Univ. 529 (copy of ed. 1540 acc. Haskins)

\*Dijon 1045, 15c, 187<sup>r</sup>-191 (III)

Douai 715, 14c, part 11 (Uniuersa astronomie ... inuestigationem merito uendicabit)

\*\*Erfurt 4° 361, 14c, 127<sup>r</sup>-129<sup>v</sup> (III-I-II), 129<sup>v</sup>-131<sup>r</sup> (App. 1-2)

\*Erfurt 4° 365, 13-14c, 44<sup>r</sup>-47<sup>v</sup> (Prol.-I-?-III), 48<sup>r</sup> (App. 1-2)

\*Erfurt 4° 374, 14c, 96<sup>v</sup>-98 (I, expl.: ... uenti minus principales)

\*\*Erfurt 8° 82, 13c, 169<sup>r</sup>-173<sup>v</sup> (I)

Leiden Scal. 46, 15c, 32-40 (acc. Zinner: III?)

\*\*Madrid BN 10063, 13c, 43<sup>r</sup>-44<sup>r</sup> (Prol.-I-II)

Oxford Bodl. 463 (Bernard 2456), 14c, 20-24 (III?)

Oxford Canon. misc. 105, pt. 5 (III?)

\*Oxford Corpus Christi 233, 13-15c, 122 seq. (III)

\*Oxford Digby 167, 14c, 72<sup>r</sup>-74 (I)

Oxford Savile 15, 14c, 175<sup>v</sup> seq. (Prol., acc. Haskins)

Paris BN 7292, 44<sup>r</sup>-47<sup>v</sup> (acc. Th; III?)

Paris BN 7316, 15c, 167 (fragment of III?)

\*\*Paris BN 7329, 15c, 66<sup>v</sup>-75<sup>v</sup> (Prol.-I-?-III)

Prag 433, 14c, 54<sup>v</sup>-57<sup>v</sup>, 184<sup>v</sup>-188<sup>v</sup> (III?)

\*Vatican Palat. 1369, 15c, 116<sup>v</sup>-119<sup>r</sup> (I-II, acc. Saxl)

Vatican Reg. 1452, 29 (III?)

Venice S. Marco 11-107 (4-285), 14c, 53 seq. (III?)

\*Vienna 2436, 14c, 134<sup>v</sup>-136<sup>v</sup> (III)

## 2. De pluuiis et uentis

Text: attributed to Ja'far; see ZDMG 18.127, Th. 1.652; perhaps a Kitâb al-imâr.

Title: De mutatione temporum; Liber temporum indorum.

Inc.: SAPIENTES INDI IUDICANT de pluuiis secundum Lunam considerantes ipsius mansiones ...

Expl.: ... qui est domus Martis. Finis huius cetera spreui quia habetur in sequentibus.

Manuscripts: Cambridge Christ Church 248, 1- (acc. ZDMG)

\*Oxford Digby 194, 15c, 147<sup>v</sup>-151 (expl.: ... cum dominus aspectus aspicit dominum uel est ei coniunctus)

Vatican Palat. 1369, 15c, 84<sup>v</sup>-87<sup>v</sup>

### 13.—Abû Ma'shar [Albumasar]

Author: Abû Ma'shar Ja'far b. Muḥammad al-Balkhî, or Ja'far b. Muḥammad b. 'Umar, born in Balkh ca. 786, died 272/885-886; see Br. '98, 221-222, '37, 394-396, Sarton 1.568-569, 2.170.

Works: There are some fifty works known in Arabic but for the most part not yet studied, many being semipopular and still read today. Texts attributed merely to one Ja'far are not necessarily by Abû Ma'shar (see above, 12A)

Unidentified Latin mss.: These are very numerous, especially since titles alone do not suffice to indicate the several tracts; thus Zinner nos. 212-329 are identified merely by German titles and his list is useless.

Significance: probably the greatest of the Arab astrologers, known widely in Latin and even in Byzantine Greek. His work synthesizes the traditional methods of Mâshâ'allâh and Sahl with new materials of Eastern origin on meteorology, etc.

#### 1. Introductorius

Arabic: Kitâb al-mudkhal al-kabîr ilâ 'ilm aḥkâm an-nujûm, mss. Escorial 917 (Casiri 912, 933, 971), Paris BN 2588, 5902, Krause p. 450. Bk. 6 chap. 1 was edited by K. Dyroff in F. Boll's *Sphaera*, Leipzig, 1903, 173-188.

Contents: astrological, pseudo-Aristotelian speculations, a detailed defense of astrology (1.4, edit. 1489 A7<sup>r</sup>-B2<sup>r</sup>), extensive lists of names of cities and countries by climates (edit. F7<sup>r</sup>), a tract on the elements of astronomy, quotations from the *Almagest*, a tract *De causa accessus et recessus* on tides and lunar influences.

Significance: one of the basic technical sources of Latin scientific literature in all fields mentioned above; used for example by Bacon, Leopold, and John of Ashenden.

#### a. John of Seville

Collation: of samples of mss. Paris 16203 and Vienna 2436; but collation of the other translation with European compilations proves that the one by John was more commonly used during the Middle Ages, e.g. by Leopold.

Title: Introductorium maius [magnum] in scientia astrorum [in astrologiam].

Rubr.: Incipit liber Geafar astrologi qui appellatus est Albumasar Introductorius ad sciendum iudicium astrorum, interpretatus a Iohanne ispalensi ...

Invoc.: LAUS DEO [Ideo] QUI creauit celum et terram cum omnibus que in eis sunt ... participem. Hic est liber quem edidit Geafar ... utilis ualde.

Prol.: Dixit Geafar qui uocatur Albumasar: CAUSA QUE ME PROUCAUIT ut ediderem librum ...

Inc. cap. 1: INTENTIO [+ autem] NOSTRA EST in hoc opere exponere et patefacere omnia [scientiam omnis rei] que necessaria sunt ...

Expl.: ... in 20° Leonis sciremus quod esset Luna ibidem.

Sign.: Perfectus est liber Introductorius maior [-ii -ris] in magisterio scientie astrorum editione Albumasar et interpretatione Iohannis ispalensis ex Luna ex arabico in latinum sub laude Dei et eius auxilio.

Manuscripts: \*Berlin 963, 15c, 107<sup>r</sup>-109<sup>v</sup> (book 6 chap. 1)

\*Berlin 964 (lat. 2° 54'), 15c, 96<sup>r</sup>-132<sup>r</sup> (books 4-8 including sign.)

Caesena (Zinner)

\*Cambrai 952/850, 14c, 82 fols.

\*Cambridge Trinity 1409, 13c, 1<sup>r</sup> seq.

Cambridge Trinity 1476, 16c, 200 fols. (in English)

\*Erfurt 4° 376, 14c, 1<sup>r</sup>-92<sup>r</sup>

Florence Laur. pl. 27 cod. 3, pt. 1

Florence Laur. pl. 29 cod. 12

Leipzig Univ.

London BM Harley 3631, pt. 1

Munich 122, 16c, 1-285

\*Munich 374, 13c, 1-80

Oxford Corpus Christi 95

\*Oxford Digby 194, 15c, 3<sup>r</sup>-84<sup>v</sup>

Paris BN 7315

\*\*Paris BN 16203, 14c, 3<sup>r</sup>-90<sup>v</sup> (end defective)

Paris BN 16204, 13c, 1<sup>r</sup>-183

\*Stalingrad Acad. Scien. AB-III, 13-14c, 180<sup>v</sup>-252<sup>r</sup> (expl.: ... tertie domus)

\*\*Vienna 2436, 14c, 3<sup>r</sup>-85<sup>v</sup>

Vienna 5318 (see Saxl '27, 132-138)

\*Vienna 5392, 15c, 241<sup>r</sup>-345<sup>v</sup>

\*Vienna 5463, 15c, 1-82

\*Vienna 5478, 13-14c, 1<sup>r</sup>-99<sup>v</sup>

#### b. Hermann of Carinthia (before 1143)

Collation: edit. 1489 with Leopold 3.1, 4.11, indicating that this edition is reliable.

Title: Introductorius maior siue liber quadrifariam partibus de

indagatione cordis; Introductorium in astrologia Albumasar Abalachi qua de causa et post astronomiam ...

Translator's prol.: APUD LATINOS ARTIUM principiis quedam ars intrinseca prescribi solet librorum in initiis non scripto ullo autentico ... (complete in Haskins 45-47)

Inc. cap. 1: PRIMUM ITAQUE [+ nobis] QUE causa qua ratione hominem in terra positum ad celestis consilia decreta scrutanda ...

Expl. lib. 8: Nunc duces partium generales sequentur ... a gradu Solis per ordinem deductum ad 20 Leonis gradum peruenit.

Editions: 1485, Augsburg: E. Ratdolt (acc. Houz. 3820)

\*\*1489 (7 idus Febr.), Augsburg: Erhard Ratdolt (collected works incl. *Flores*), A2<sup>r</sup>-J6<sup>r</sup>; C1<sup>r</sup>-C8<sup>v</sup> were bound with Leopold, edit. 1515

1490, Venice (acc. Houz. 3820)

1492

1495 (acc. Houz. 3820)

1506, Venice: Sessa (quoted by Nal. 2.311, Duhem 2.380)

1515, Venice (acc. Houz. 3820)

Manuscripts: \*Erfurt 4° 363, 13-14c, 38<sup>r</sup>-58<sup>r</sup>

\*Florence BN J II 10 (S. Marci 200), 13c, 1<sup>r</sup>-54<sup>v</sup> (end lost)

Manchester Rylands 67, 170

Naples BN C viii 50, 12c, 1-56<sup>v</sup>

Oxford Corpus Christi 95, 12c, 60 seq.

Oxford Laud 594, 12c, 144-153 (defective)

Paris BN 14704, 12c

Parma 720, pt. 1

Vat. lat. 4603

#### c. G. Z. Zothorus Fendulus

Text: acc. to Thorndike (forthcoming article), Zothorus said that he found this text of Abû Ma'shar at Damascus in a very corrupt condition.

Inc.: INTER OMNES auctoritates ...

Manuscript: \*Brussels 1465, 14c (TK 362)

#### d. Fragment

Contents: effects of each zodiacal sign in a separate chapter; apparently related to the INTRODUCTORIUS, bk. 6 chap. 2.

Collation: the ms. is clear and probably complete.

Inc.: ARIES EST igneum temperatum effectus et incrementi. Mas diurtium colique ...

Expl.: ... que possidet et in tuo corpore absque amissione anime.

Manuscript: \*\*Erfurt 4° 363, 13-14c, 68<sup>v</sup>-75<sup>v</sup>

#### 2. De magnis coniunctionibus

Arabic: Kitâb fihî jumal min dalâlât al-ishkhâs al-'ulwiya (Br. no. 18-19), or Kitâb fî dhikr ..., mss. Escorial 913, 932 (Casiri 1.352, 371), Paris BN 2580 pt. 3, Krause p. 451.

Contents: analyses of major conjunctions by zodiacal combinations, with effects specified by regions as named (end book 4) and by climates; no astronomy, few if any sources are named. See Th. 1.652, 2.22, ZDMG 25.394, Sarton 1.568 (who says that this work is a plagiarism from al-Kindî).

Significance: Aside from the astrological doctrines, this work contains many side remarks, one for example referring to tables that Abû Ma'shar claims to have made, otherwise apparently unknown today. (edit. 1489, fol. A3<sup>r</sup>: ... in tabulis nostris maioribus in fine richene elchebir celestium discursus persecutus sum).

#### a. John of Seville

Text: 8 books, 63 chapters.

Significance: widely quoted in Latin, e.g. by John of Ashenden 1.8.1-4, and, on comets, by others edited by L. Thorndike in his *Latin Treatises on Comets*, Chicago, 1950, esp. pp. 166-178.

Collation: I have used edit. 1515 for analysis of Leopold and made sample collations with edit. 1489, which it reprints; I have also collated parts of book 6 with John of Ashenden (on geographical matters, 1.8.1-4, edit. fols. 42<sup>r</sup>-45<sup>r</sup>); the latter show many important variants which appear to be more nearly correct than readings in our edit. 1515, especially for transliterations from Arabic.

Title: De magnis coniunctionibus [+ siderum] et annorum reuolutionibus in summa de significationibus ...

Prol.: HIC EST LIBER INDIUIDUORUM superiorum in summa de significationibus super accidentia que efficiuntur in mundo ...

Rubr.: Tractatus primus qualiter aspicitur ex parte coniunctionum apparitio prophetarum ... (+ table of contents)

Inc.: SCIENTIA INDIUIDUORUM significationum circularium super effectus inferiores accipitur a motibus naturalibus eo quod sint sensui proprios ...

Expl.: ... et illud fortius ad significationem et uerius cum uoluntate Dei et eius auxilio [adiutorio].

Sign.: Et quia Deo ... iam ergo compleuimus totum librum.

Editions: \*\*1489 (pridie kal. Apr.), Augsburg: E. Ratdolt, edited by Ioh. Angelus, A2<sup>r</sup>-P8<sup>r</sup>

1489, Venice



1503, Venice (acc. Houz. 3821)

\*\*1515, Venice: Sessa (reprint of 1489 with 'corrected' spellings)

Manuscripts: \*Cambrai 168/163, 14c, 26-98

Cambridge Emm. 70, 151<sup>v</sup> (text and tables from the Flood, inc.: Nota quod tempore quo uis ...)

Cues 208, 14c, 75-118

Erfurt 4° 355, 36<sup>v</sup> (short excerpts)

\*Erfurt 4° 372, 14c, 1<sup>r</sup>-50<sup>v</sup> (inc. bk. 2 cap. 4)

\*Erfurt 4° 374, 14c, 169<sup>r</sup>-171<sup>r</sup> (fragment of bk. 2 cap. 8)

Florence Laur. Ashb. 127 (201/133), 14c, 114 fols

Munich 125, 15c, 223-278

\*Oxford Digby 114, 13-14c, 53-103<sup>v</sup> (inc. 2.6, at end adds 1.1-3)

Oxford Merton 281, pt. 8

\*Paris BN 16204, 13c, 183<sup>r</sup>-302

\*\*Vienna 2436, 14c, 144<sup>r</sup>-198<sup>r</sup>

Vienna 5392, 15c, 346<sup>r</sup>-413<sup>v</sup> (identified by title alone)

\*Vienna 5478, 13-14c, 103<sup>r</sup>-178<sup>r</sup>

### 3. Flores

Arabic: see Steins. '05, 48.

Contents: a short treatise on prognostications, perhaps based on *De magnis coniunctionibus*; see *Bibl. Math.* 1905, 237, Th. 1.648, and the similar incipit below, no. 4a.

#### a. John of Seville

Text: compare the explicit of Māshā'allāh no. 7.

Collation: The three editions seen appear to be complete. I have not been able to verify or locate the different explicits.

Title: Flores [+ de iudiciis] astrorum [astrologie] siue liber de reuolutionibus annorum.

Prol.: In nomine Dei misericordis, hic est liber quem collegit Albumasar de floribus eorum que significant res superiores ... Tractatus primus qualiter ...

Inc.: Dixit Albumasar: OPORTET TE PRIMUM SCIRE dominum anni. Et scientia huius rei scitur hora introitus Solis in primum minutum signi Arietis. Scito itaque ascendens ...

Expl.: ... et non uideatur apud te sicut [secundum quod] exposui tibi si Deus uoluerit ipse est [erit, sit + nobis] auxiliator.

Expl. (ed. 1488, Vatican 1369): ... que dixi tibi aut ... sicut natura euentus qui tibi apparuerit fuerit in eodem anno. [Hoc est ex secretis astronomie quod occultari opere pretium est.]

Expl. (mss. Digby 194, Paris BN 16204): ... propter breuitatem et leuitatem operis et ueritatem eorum que collecta sunt in eo ex floribus et secretis astrorum si Deus uoluerit.

Sign. (ms. Digby 51): Finit liber florum Albumasar sub laude Dei et eius adiutorio.

Editions: \*\*1488 (18 Nov.), Augsburg: E. Ratdolt, fol. A2<sup>r</sup>-C3<sup>v</sup>

\*[1488], Venice: M. Sessa

\*\*1489 (7 idus Feb.), Augsburg (with *De magn. con.*), fols. 16<sup>v</sup> seq.

\*\*1495 (14 Sept.), Augsburg: E. Ratdolt

1509, Venice (omn. 6?)

1515, Venice (acc. Houz. 3819)

Manuscripts: \*Berlin 964 (lat. 2° 54), 15c, 146<sup>r</sup>-157<sup>r</sup>

\*Cambrai 168/163, 14c, 26<sup>r</sup>(-99)

Cambridge Emmanuel 70, 15c, 151<sup>v</sup> (inc.: Nota quod tempore ...)

\*Cambridge Trinity 1185, 16c, 123<sup>r</sup>-132

Cambridge Trinity 1307, 14c, 44-61 (English translation)

Cues 208, 14c, 118<sup>v</sup>-125<sup>v</sup>

\*Erfurt 2° 377, 14c, 48<sup>r</sup>-54<sup>v</sup>

\*Erfurt 2° 395, 14c, 195<sup>r</sup>-201<sup>r</sup> (expl.: ... et non erratis si D. uol.)

\*Erfurt 4° 189, 13c, 25<sup>r</sup>-40<sup>r</sup>

\*Erfurt 4° 351, 14c, 64<sup>r</sup>-72<sup>r</sup>

\*Erfurt 4° 352, 13-14c, 11<sup>v</sup>-17<sup>r</sup>

Erfurt 4° 361, 14c, 22<sup>v</sup>-23<sup>v</sup> (excerpts?)

\*Erfurt 4° 363, 13-14c, 64-68<sup>v</sup> (expl.: ... sint mali in angulis)

\*Erfurt 4° 374, 14c, 61<sup>r</sup>-68<sup>r</sup>

Erfurt 4° 381, 14c, 50-57 (expl.: ... tibi futurus in eodem anno)

\*Florence Laur. San Marci 194, 14c, 114<sup>v</sup>-122<sup>r</sup>

\*Ghent 416(5), 15c, 73<sup>r</sup>-84<sup>v</sup>

London BM Harley 1, 13-14c, 24-30

London BM Cotton app. VI, 14c, 45<sup>r</sup>-53<sup>r</sup>

\*Lyon 329, 15c, 70<sup>r</sup>(-80)

\*Madrid BN 10063, 13c, 50<sup>r</sup>-53<sup>r</sup>

Modena Estense 445 3 360

Munich 125, 15c, 281-284 (Liber secretorum)

Munich 228, 14c, 94-99 (Flores)

Munich 267, 14c, 95-100 (Flores de electionibus)

Munich 3857, 13c, 1-5

Noget-sur-Seine, 15c, 20-

Norman (Okla.), Univ. 2, 15c, 14 fol.

\*Oxford Digby 51, 13c, 47-55

\*Oxford Digby 194, 15c, 102<sup>r</sup>-111

\*Oxford Digby 228, 14c, 16-20

\*Paris BN 16204, 13c, 333-353

\*\*Paris BN 16208, 14c, 53<sup>v</sup>-64<sup>v</sup>

Prag 433, 14c, 49<sup>r</sup>-54<sup>r</sup>  
 Vatican Palat. 1369, 15c, 80<sup>r</sup>-83<sup>v</sup>  
 Venice fa 344 (XI, 104), 14c, 103-114  
 Vienna 3124, 15c, 86<sup>r</sup>-94<sup>v</sup> (end lost)  
 \*Vienna 5209, 16c, 77<sup>r</sup>-132<sup>r</sup>  
 Vienna 5463, 15c, 93<sup>r</sup>-146<sup>r</sup>

#### 4. De reuolutionibus annorum

Contents: related to *De magnis coniunctionibus* books 5 and 8;  
 cf. the explicit of 3a above.

##### a. John of Seville

Title: De reuolutionibus annorum mundi siu liber experimentorum.  
 Rubr.: In nomine Domini pii et misericordis incipit liber de reu. an.

Inc.: Dixit Albumasar: SCITO QUOD HORA [Scito horam, Dato horum] introitus Solis in primum minutum Arietis ...

Expl.: ... significat fortitudinem arabum et petitionem in regno si Deus uoluerit.

Sign.: Perfectus est liber experimentorum Albumasar sub laude Dei et eius adiutorio.

Editions: \*\*1489, Augsburg: E. Ratdolt (with *De mag. con.*)

Manuscripts: Cambridge, Gonville and Caius 141/191, 14c, 10-637

\*Dijon 449, 15c, 113<sup>v</sup>-122

\*Dijon 1045, 15c, 81-118 (expl.: ... intentionem si Deus uoluerit)

\*Erfurt 4<sup>o</sup> 365, 12c, 1<sup>r</sup>-18<sup>r</sup> (with expl. and sign.), 18<sup>v</sup>-27<sup>v</sup> (excerpts)

Ghent (acc. Houz. 3828)

Greenville (Miss.) Publ. Lib., 15c, 61 fols.

\*Madrid BN 10063, 13c, 45<sup>r</sup>-50<sup>r</sup>

Milan Ambr. (acc. Houz. 3828)

Modena Estense 445 3 360, 14c

\*Paris Arsenal 880, 15c, 1-10

\*Paris Arsenal 1036, 14c, 104<sup>v</sup>-111

##### b. De reuolutione annorum in reuolutione natiuitatum

Text: see Th. 1.651; could be another translation of the foregoing.

Inc.: OMNE TEMPUS breue est operandi et opus ...

Expl.: ... fuerit signato (?) reuolutionis fortior erit minus.

Manuscript: \*Paris BN 16204, 13c, 302<sup>r</sup>-369<sup>r</sup>

#### 5. De reuolutionibus natiuitatum

Arabic: Kitâb aḥkâm taḥwîl sini 'l-mawâlid, ms. Berlin 8<sup>o</sup> 3090 (acc. Br. '37, 395, no. 8), Esc. 917 (Derenb.); but there are

various tracts on this subject attributed to Abû Ma'shar, mss. Berlin 5881, 5882, Cairo 346, Paris BN arab. 2583-2587.

##### a. Undetermined

Text: The Latin is said to have been based on the Byzantine Greek of the 13th c., ms. Vatican gr. 197, 248<sup>v</sup>-280<sup>v</sup>; see Haskins, 222.

Contents: a defense of and illustrations of nativities.

Collation: I have collated only the first three folios of mss. Oxford, Paris 7324, and Vienna 10583 and the last page of Paris 7439 and Vienna 10583; incipit and explicit are further attested in copies starred below.

Title: Breuis compilatio Hermetis de reuolutionibus natiuitatum.

Inc.: SOLE [SOL IN] NATIUITATIS tempore in loco aliquo exeunte [existente] moto siquidem in zodiaco ...

Expl.: ... ad angulum terre peruenitur bona et (?) pro occultis rebus fiendis sicut incantationes furta fornicationes et similia.

Sign. (Paris 7439): Explicit Albumasar de reuolutionibus natiuitatum.

Edition: 1559, Basel (omn. 16), pp. 211-279

Manuscripts: \*Oxford Digby 210, 15c, 42<sup>r</sup>-63 (first folios seen; followed by no. 14)

Paris BN 7320.2, 13c (acc. Haskins)

\*Paris BN 7324, 15c, 1<sup>r</sup> seq. (first folios seen)

\*Paris BN 7439, 14c, -107<sup>r</sup> (last page seen)

Paris BN fr. 24276 (French translation)

Vatican 5713, 61 (acc. Haskins)

Vatican Palat. 1406, 45 seq.

Venice 6-108, (11-110), 15 (acc. TK 696)

\*Vienna 2436, 14c, 101<sup>r</sup>-133<sup>r</sup> (expl.: ... a diuersis et partibus orbis)

\*Vienna 10583, 15c, 1<sup>r</sup> seq. (97<sup>v</sup>-99<sup>v</sup> are the end of another work quoting Mâshâ'allâh, Abû Ma'shar, Sadan, Hermes, Abraam, Ptolemy, etc., expl.: ... maxime cum habuerit in M. télös)

#### 6. De significationibus planetarum

Contents: signification of each planet in each sign of the zodiac.

Collation: Ms. Vienna 5438 includes each combination, the chapters becoming much shorter toward the end; it seems to be complete.

Inc.: DIXIT ALBUMASAR DARIO regi in die de domino anni omni anno per suam sententiam et suam opinionem quod septem sunt planete, quorum quatuor sunt maiores ...

Expl.: Et si fuerit [i.e. Luna] in Piscione, gaudet ... utilitatem pretii multarum rerum uictualium.

Manuscripts: Cues 209, 14c, 26-40

London BM Royal 12 D 6, 15c, 94-95 (excerpts?) \*

Paris BN 16204

Prag 433 f. 190 (excerpts?)

Vienna 5307, 15c, 192<sup>r</sup> (apparently another work)

\*\*Vienna 5438, 15c, 128<sup>v</sup>-150<sup>v</sup>

Vienna 10584, 15c, 1-22

Appended text: follows the above in ms. Vienna 5438, 151<sup>r</sup> seq. (end not seen); no attribution stated.

Inc.: Nomina planetarum. Septem sunt planete. PRIMUS SATURNUS qui est frigidus et siccus atque maliuolus, ideo in rebus mundi ...

#### 7. Electiones planetarum

Text: apparently a compilation of selections from the work of Abû Ma'shar.

Contents: discussion of lunar aspects with regard to the other planets.

Collation: of the first two folios of mss. Oxford and Paris 613, both apparently authentic; the sequence of combinations is complete in ms. Oxford.

Title: Electiones planetarum cum Luna in signis et in omnibus aspectibus eorum.

Inc.: Dixit Albumasar: PLACUIT MIHI INTER cetera uolumina que de iudiciis signorum [astrorum] et planetarum composui de electionibus Lune aliquid explicare ...

Expl.: ... sunt magis debilia in omnibus aliis aspectibus [+ a certo ?].

Manuscripts: \*\*Oxford Digby 72, 15c, 62<sup>r</sup>-77<sup>v</sup>

Paris BN 7435, 15c, 1-32

\*\*Paris BN fr. 613, 14c, 145<sup>r</sup> seq. (French translation)

#### 8. De modo eligendi

Collation: incipit and explicit coincide in both mss. as reported by the catalogues.

Title: Electiones ad quecumque opera.

Inc.: ELECTIO DUOBUS MODIS. Uno cum scitur natalis [Uno modo sciente natale], alio [+ modo] cum nescitur ...

Expl.: ... in nulla emptione sit dominus 12 in 7<sup>a</sup> anima liberetur [labetur] ex bestiis [ex sic istis] emptis.

Manuscripts: \*Berlin 963 (2<sup>o</sup> 192), 15c, 85<sup>r</sup>

\*Madrid BN 10063, 13c, 10<sup>v</sup>-11<sup>r</sup>

#### 9. Flores de electionibus

Text: constructed as definitions like free verse; an elaborate diagram at the end.

Contents: conjunctions and aspects of the planets with reference to the moon.

Collation: Ms. Oxford is apparently complete; I have collated the last folio of ms. Erfurt.

Title: In nomine Dei incipiunt electiones quas Albumasar compilauit de confusis tractatibus [confusionibus] antiquorum.

Inc.: NOTANTUM AUTEM quod aspectus ...

Expl.: ... caput uel cauda ex parte orientis uel occidentis et eius dominum etc. xii de gradus [quibus] nunc supersedeo.

Sign.: Explicit liber qui uocatur Flores Albumasar ... compositione factus.

Manuscripts: Basel D I 10, 14c, 31<sup>r</sup>-32<sup>r</sup> (acc. Th.)

\*Erfurt 4<sup>o</sup> 361, 14c, 22<sup>v</sup>-23<sup>v</sup> (Abbreviatus, inc.: Cum sint planete 7, Saturnus ..., expl. as above)

\*Ghent 416/5, 15c, 136<sup>r</sup>-144<sup>r</sup>

\*\*Oxford Digby 48, 15c, 193<sup>r</sup>-206<sup>r</sup>

#### 10. Flores super Saturno

Text: perhaps several separate tracts gathered under a common prologue; or the prologue may have been transferred to other works (note ms. Basel).

Collation: from mss. Cambridge and Oxford, of the first folio alone; the explicit has not yet been determined clearly.

Prol.: HUNC LIBRUM intellexerunt romani quoniam quidem rex eorum congregans philosophos sapientes dicens eis componentes ...

Inc.: QUANDO SATURNUS intrat Arietem et perficit medietatem more sue ...

Expl. (ms. Cambridge): ... in hominibus occidentis pectus (?) earum.

Edition: 1488, Augsburg (or perhaps merely no. 3 above)

Manuscripts: \*Basel D I 10, 31<sup>r</sup> (prologue; subject matter of the incipit; followed by Abû Ma'shar on elections)

\*\*Cambridge Univ. Kk IV 7, 15c, 116-118 (end dubious)

\*Douai 715, 14c, 55<sup>v</sup>-59 (inc. only)

\*\*Oxford Digby 93, 15c, 1<sup>r</sup>-2<sup>r</sup> (end not seen)

\*Vatican Palat. 1401, 58<sup>r</sup> seq. (prol. + Abû Ma'shar on elections)

\*Vatican Palat. 1414, 173-174 (inc. only)

## 11. De partibus et eorum causis

Contents: the astrological 'pars fortunae' and 'pars uitae' according to the twelve houses. On this topic see Ptol. 33.

Collation: From ms. Digby it seems probable that this material forms two separate tracts, the short *De partibus* (173<sup>r</sup>-174<sup>r</sup>) and the longer *Partes fortune* (174<sup>r</sup>-183<sup>v</sup>). Both appear to be complete.

Inc.: ANTIQUI SAPIENTES in iudiciis suis cum autem uellent aspicere de aliqua, aspiciabant tantum partem cuiusque rei et locum eius et dominum signi ...

Expl.: ... per 23° et 51' ut putauit Ptolomeus.

Part 2: Hic determinat de partibus planetarum ... PRIMA PARS FORTUNE signat uelut signant lunaria proprie quodque (?) signant animam et eius formam ...

Expl.: ... locis suis ex signis in omni libro secundum quod necesse fuerit si Deus uoluerit.

Manuscripts: Munich 125, 15c, 285 (by title)

\*\*Oxford Digby 93, 15c, 173<sup>r</sup>-183<sup>v</sup>

## 12. Isagoga minor Iapharis in astronomiam

a. Adelard of Bath

Text: in seven parts; see Th. 1.652, 2.22 seq.

Collation: Ms. Oxford is apparently complete.

Title: Isagoga minor Iapharis mathematici in astronomiam per Adelardum bathoniensem ex arabico sumpta.

Prol.: QUICUMQUE PHILOSOPHIE SCIENTIAM altiore studio constanti inquirens ...

Inc.: Sermo primus de natura signorum. CIRCULUS ERGO IN 360° ...

Expl.: ... 12° 20'; hec igitur sunt loca excessuum cum quibus finem institutionis faciemus.

Sign.: Explicit Ysagoga minor per Adhelardum bathoniensem ex arabico sumpta.

Manuscripts: \*London BM Sloane 2030, 83-86<sup>v</sup>

\*\*Oxford Digby 68, 14c, 116<sup>r</sup>-124<sup>r</sup>

## 13. Liber Albumazar de duodecim domibus astrorum

Text: a long tract perhaps related to *De magnis coniunctionibus* book 7 (edit. Augsburg, Q2<sup>r</sup>), or bk. 1 chap. 4, or bk. 2 chap. 4.

Contents: prognostications systematically by 'partes'; quotes Hermes.

Collation: I have seen the first and last folios of the ms.; the preceding text is in the same hand, and appears to be a part of the same work or compilation.

Rubr.: Incipiunt partes duodecim domorum et primo de partibus ascendentis.

Inc.: ASCENDENTIS TRES SUNT partes, quare (?) pars uite hec credabitur ex duobus planetis scilicet Saturnum et Iouem ...

Expl.: ... concilia et furta incantationes uel beneficia et ad credentiam secretorum.

Manuscript: \*\*Erfurt 4° 223, 15c, 172<sup>v</sup>-265<sup>v</sup>

## 14. De ascendente reuolutionis anni in natiuitatibus

Contents: planetary influences in nativities.

Collation: probably a complete text, presented by the ms. as book 2 of no. 5 above.

Prol.: POST DOMINUM ANNI diuisor habet significationem 2° de (?) sed nos ad hoc quod sermo procedat secundum ordinem mentionem fecimus ...

Inc.: UIRTUTES PLANETARUM natiuitatis et reuolutionis cognoscuntur ab anni figura ...

Expl.: ... quibus diuidit fiunt mali esse et non aspexerit terminum.

Manuscript: \*\*Oxford Digby 210, 15c, 63<sup>v</sup>-68<sup>r</sup> (preceding expl.: ... in carcerem impedimento)

## 15. Liber de meditationibus cordis Albumasar

Contents: regions, parts of the body, etc., by constellations; a long passage (chap. 9, 2<sup>v</sup>) from Mâshâ'allâh; astrological effects on plants and animals. The form is that of Abû Ma'shar's *De magnis coniunctionibus* book 4.

Collation: presented by the ms. as a complete text, but there is no objective means for determining the exact ending.

Inc.: IN DISPONENDIS STELLARUM radicibus orientibus iuxta ...

Chap. 3: Aries siquidem Persiam, Babiloniam, ...

Expl.: ... signo uel signorum gradus uiuendum. [or: ... ut autem dictum est.]

Manuscript: \*\*Boston Publ. Lib. 1488, 14c, 1<sup>v</sup>-6<sup>v</sup>

## 16. Introductorium Albumazar in astrologiam

Inc.: ASTRONOMIA EST ASTRORUM certa lex alii eam ...

Expl.: ... signum preest uulnus passus est.

Manuscript: \*Erfurt 4° 365, 12-13c, 28<sup>r</sup>-40<sup>v</sup>

## 17. De coniunctionibus

Text: a fragment or chapter, perhaps related to *De magnis coniunctionibus* bk. 2 chap. 8 (edit. C4<sup>r</sup>); use of 'differentia' indicates a translation by John of Seville.

Title: Ista excerpsi de Albumazar in libro de coniunctionibus tractatu 1° differentia prima.

Inc.: NOTA QUOD ALBUMASAR ... coniunctionem significationem.

Expl.: ... introitu Solis in signa mobilia.

Manuscript: \*Erfurt 4° 355, 14c, 36<sup>v</sup>

18. De ascensionibus imaginum

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Text: see Steins. '06, 36. On such celestial images see my edition of Leopold, p. 67.

Inc.: CUM IN PRIMO Lune ascendit gladiator ...

Manuscript: see TK 142

19. Tabula Albumassar subtilissimi

Text: The allusion to Ibn 'Ezra (?) may form part of an epilogue. Contents: recitation of aspects (there are no tables, however). Collation: presented as a separate short tract, apparently intact. Inc.: SI LUNA ASPEXERIT Saturnum sextili aspectu die fortunata, bonum est in coniungere (?) consulibus ...

Expl.: ... ab hiis non multum dissentius Abeneysar iudeus, cognominatus hebraice israhelita, quem in iudiciis ... de premissis figuravit.

Manuscript: \*\*Erfurt 4° 377, 14c, 1<sup>r</sup>

20. Tractatus de natiuitatibus

Collation: apparently a complete tract.

Inc.: DUODECIM SUNT SIGNA in celo quorum primum ...

Expl.: ... plus mortis quam uite.

Sign.: Unde dicta de 12 signis sufficient. Et nota tamen quod ista predicta non necessario eueniunt ... magis fortis.

Manuscript: \*\*Erfurt 4° 377, 14c, 2<sup>r</sup>-5<sup>v</sup>

21. De proprietatibus et complexionibus planetarum

Text: attributed to Albumasar in marginal hand.

Collation: apparently a complete tract.

Inc.: DE ORDINE ET PROPRIETATE planetarum sciendum est quod Saturnus est supremus et summe firdarius (?) et ex coniuncti (?) fictus. Et sic omni ...

Expl.: ... coniuncti lumine et non corpore.

Sign.: Expliciant proprietates complexiones et coniunctiones planetarum.

Manuscript: \*\*Erfurt 4° 345, 15c, 59<sup>v</sup>-61<sup>r</sup>

22. Liber similitudinum Albumasaris

Inc.: Liber reuolutionum. ARIES IN TOTA FRANCIA ...

Manuscript: \*Prag 1466, 15c, 333<sup>r</sup>-348<sup>v</sup>

23. Liber imbrum

Text: no attribution, but found among other works of Abû Ma'shar.

Inc.: ANNI REUOLUTIONEM sic iudicabis ...

Expl.: ... sunt humide et sic in diuisione eorum dicitur sed cetera sunt temperate.

Manuscript: \*Madrid 10063, 13c, 44<sup>r</sup><sup>v</sup>

24. De electionibus Lune

Manuscript: Modena Estense 175 4 87 (acc. inventory)

25. Liber experimentorum

Manuscript: Modena Bibl. Palat. 445 3 360, 14c (acc. inventory)

26. De diebus criticis

Manuscript: Munich 275, 15c, 139<sup>v</sup>-144

27. De occultis

Text: undoubtedly related to the *Liber nouem iudicum* (see 15.1.3, 9, 15.5.3).

Author: acc. to Thorndike, Hermann of Carinthia, who cites various Arabic writers.

Title: De occultis; Liber quadrifariam partibus de indagatione [meditationibus] cordis (cf. no. 15 above).

Inc.: HIC LIBER MAIORIS in astronomia comenti ...

Expl.: ... ad mensuram applicationum quod alibi planius exequamur.

Liber II (ms. Stal.) inc.: SUPERIORIS UOLUMINIS tractatus de consili querentis et cogitatione concipienda ...

Expl.: ... causam rei celi medio finem terre cardini.

Manuscripts: \*Dijon 449, 15c, 17<sup>r</sup>-25

\*Oxford Laud. misc. 594, 144<sup>r</sup>-153<sup>v</sup>

\*Stalingrad Acad. Scien. AB-III, 13-14c, 155<sup>r</sup>-160<sup>r</sup> (book II 160<sup>r</sup>-168<sup>r</sup>, followed by 15.5.3)

13A.—Sadan

Author: Sa'id Shâd(h)ân b. Baḥrân, a work entitled *Mudhâkarât fî 'ilm an-nujûm*, said to have been composed by him and others from the saying of Abû Ma'shar. See Br. '37, 395, mss. Bodl. I.332 (?), Cambridge Browne p. 200, no. 1028.

a. Undetermined

Text: used by Petrus de Abano and by Abraham Iudeus in his *De natiuitatibus* (ed. Venice, 154, fol. 8).

Collation: Thorndike, in *Isis* 45, 1954, 22-32, gives a free translation in English based on mss. Oxford and Paris, which he claims are complete and correspond closely throughout. E. S. Kennedy and O. Neugebauer, in contrast, having examined ms.

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New Traditions

# ANONYMOUS COMPILATIONS

## 15.—*Liber nouem iudicum I*

Sources: Various Latin tracts constructed from chapters compiled systematically from such writers as Māshā'allāh seem to have been translated intact in present form from Arabic. This last and crucial factor is apparent in the unified Latin style and terminology. Many of these are entitled *Liber nouem iudicum*; others, such as ms. Boston Publ. 1488, seem to be related to the same traditions. No study has been made of these texts. The *Liber nouem iudicum* is said to have been sent to Frederick II by the Sultan of Babylon; but which of the books by this title is not known. Variants of the title speak also of seven and of three Judges.

### 1. *Liber nouem iudicum I*

Collation: Ms. Digby 149 appears to be complete and authentic so far as seen. Incipit and explicit are identical in all starred copies. No correspondence has been established with *Liber nouem iudicum II* (16.1 below), but rather with better-known Arabic works. Division into chapters is equivocal and irregular, in contrast to 16.1; part XII starts a new presentation in very short quotations; part XV, in long chapters, gives the impression of a different method of compiling.

Sources: The title names the sources: "Abendaiat [= Ibn Haytham?], Messehallac, Dorochius, Jerjis, Aristotelis, Albumasaris, Aomar [also named as Tiberias = aṭ-Ṭabarī], Alkindi, Zaelis liber incipit." Note remarks after certain chapters concerning correspondences with known tracts by these writers.

Prol.: CELESTIS CIRCULI forma sperica idem cum terra centrum optimum [-a ?]. Diuiditur etiam in 12 partes quas astrologi signa nuncupant ... finem Piscium attingens frigida nuncupatur.

(Arabic) Cambridge Gg 3 19, in 92 folios, believe that the Latin as here known is only a small excerpt.

Title: Liber rememorationum [+ uel de planetis et ascendente] uel excerpta ex secretis Albumasar in Sadan.

Inc.: Dixit Sadan: AUDIUI ALBUMASAR dicentem quod omnis [quo dominis] uita uiuentium post Deum est Sol et Luna.

Inuenimus enim natiuitates non habentes yleg neque alkoden ...

Expl.: ... secundum proprietatem loci et naturam signi pronuntiare [-tia rem] de qua est interrogatio.

Sign. (Laud.): Expliciunt excerp̄ta de secretis Albumasar.

Manuscripts: \*Erfurt 4° 352, 14c, 11<sup>v</sup>-17<sup>r</sup>

Leipzig Univ.

\*Limoges 9/28, 15c, 115-124 (extracts?)

\*Lyon 329, 15c, 291<sup>r</sup>-298

\*Munich 826, 14c, 27<sup>v</sup>-34

\*\*Oxford Laud. mist. 594, 14-15c, 137<sup>r</sup>-141<sup>v</sup>

Paris BN 7302 (acc. Th.)

## 14.—Andruzagar

Author: Al-Andruzagar b. Zadi Farrukh (a suggestion in *Bibl. Math.* 1894, p. 82, and *ZDMG* 18, p. 192).

### 1. Quotations

Text: a series of short quotations given by Taisnier in his *Opus mathematicum*, Cologne, 1583, pp. 594-610, all referring to triplicities.

I. Dixit Adrozagar: DOMINUS PRIMUS triplicitatis domus tertiae super fratres maiores iudicat; dominus triplicitatis secundus super mediocres ... (p. 594)

II. Dixit Andruzagar: DOMINUS PRIMUS triplicitatis domus quintae de filiis ... (p. 598)

III. Haec Andruzagar. SI STATUS DOMINI primae triplicitatis laudabilis ... (p. 602)

IV. Haec Andruzagar. DOMINUS UERO secundus triplicitatis de haereditatibus mortuorum ... (p. 605)

V. Andruzagar. inquit: PRIMUS DOMINUS triplicitatis nonae iudicat de itineribus ... (p. 607)

VI. Andruzagar ait: PRIMUS DOMINUS triplicitatis decimae de matre iudicat, secundus de honore ... (p. 610)

I. De propria signis secundum Alkindum. SEQUITUR ITEM eorundam signorum alia iuxta 4 naturarum efficacium tripartita ... prolis Aries Leo Virgo Sagittarius Capricornus.

II. Signa a' R/ [= Aristotelis ? or autem 12 ?]. PARTES PROCURANTUR ternarios et ob hoc sint appellata ... talem placuit ibericere (?) formam.

III. De quadripartita horum diuisione Alkindus. RURSUM ISTE quatuor hore quadripartita denuo ineunt sectionem. Pars enim prima 6 uidelicet prime diei hore orientalis sanguinea ... supradictum est communiter exequemur.

IV. De domorum diuisione. HIIS DE NATURA signorum aliter prelibatis de accidentali domiciliorum proprietate et pro motu ... apertam producit recollentiam (?).

V. De orientis et reliquarum domorum significatione Zael. ORIENS IGITUR gus (?) inter cetera tamquam orientis tardo et circuli ... gaudium unum Mercurii deprehensum est.

VI. De Saturno Zael. SECUNDA AUTEM domus est oriēntis cardini ... (through the 12 houses in short chapters) ... prodat uiditium.

VII. Alkindus de angulis succedentibus et remotis. NOTA IGITUR istarum domorum series triplicem horis in omnibus recipit sectionem ... ab obscuritate nomen accipuit.

VIII. De cardinum naturis Zael. OMNIUM IGITUR 12 fortissimi sunt cardines perficere ... respectus et eminens.

XI. De accidentibus cardinum. PORROQUE CARDINALES secuntur accidentia ... ascribunt recessum. [Cap.] Remota quidem et cardinibus ... [Cap.] Septimus est inter ...

X. Jergis de omnibus stellis erraticis. SCIMUS (?) ERGO omnium rerum opifex Deus uniuersam ... proprias 5 habent dignitates. [Cap.] Quarum dignior et principalior ... [Cap.] Locus autem iste ob hoc ... regnorum suorum humiliari habent uel deici (?)

XI. De domibus Albumasar. DE DOMIBUS AUTEM hoc est habenta ratio ut cum Sol et Luna tamquam inter 7 planetas fortiores ... medium locum optineat.

XII. RURSUM QUONIAM luminaria ut queque incrementum et generationem signat Cancrum ... fortunator merute appellari. [Cap.] Pars quidem infelix ... refertur rescriptio. [Cap.] De natura stellarum et earundem in rebus mundanis significatione. HIIS ET HUIUS de circuli partitionibus ... actus et uarius.

XIII. De Saturno secundum Albumazar. PRIMUS ERGO [gradus ?] inter 7 planetas ut sardan (?) est Saturnus, discurret infortunatus ... Secundum Tiberiam. SATURNUS AD HOC ferrum ... Secundum Iergem. SATURNUS FRIGIDUS et siccus seruos indicat agros ... (on each planet according to each Judge).

XIV. De 18 stellarum ... secundum Messahalla. PRIMO IGITUR ante cetera hoc attendendum existimo quoniam negotiorum ...

XV. De eodem accessus et recessus applicatio. EST IGITUR accessus stelle quotiens ... senatorum atque id ses (?) demonstrabat.

XVI. Prohibitio secundum Albumasar et Iergem bipartita est; Zael namque asserit tripartitam ... aduerta negant atque infectum relinquunt.

XVII. Albumasar. SECUNDA SPECIES reditionis ... compassionis appellant.

XVIII. De impedimento Lune secundum Zaelem et Albumasar. LUNE IMPEDIMENTA que in omnibus rerum negotiis ... obsessio comparata. (Cf. Leopold 9.3.37, edit. p. 183).

XIX. Claues per singulas domos singula pandunt iudicia. HIC LOCUS et ratio postulat supremo ... uidetur habenda speculatio.

XX. De Solis proprietatibus Messehalla. SOLE IGITUR signum quodlibet ingresso eius signis potentia ... orientis dominus corrumpatur. (Cf. Māshā'allāh no. 4.)

XXI. De Lune proprietatibus Messehalla. LUNA IGITUR QUIA planetis (?) stellis omnibus ... (remaining chapters not seen).

Expl.: ... et soluit implicata.

Manuscripts: \*London BM Arundel 268, 13-14c, 75<sup>r</sup>-85<sup>v</sup>

London BM Royal 12 G 8, 14c, 78 fols. (acc. TK 90)

London BM Sloane 268 (acc. TK)

\*Oxford Digby 47, 14c, 84<sup>r</sup>-99<sup>v</sup> (inc. cap. XIV above)

\*\*Oxford Digby 149, 14c, 206<sup>r</sup>-216<sup>v</sup> (end lost)

Oxford Queens College 389, 13c, 4, 6 (acc Th.)

\*Paris Arsenal 2872, 14c, 85-309 (French translation inc.:

La fourme du ciel qui est ronde ... expl.: ... especial quans as interrogations)

Paris BN 7440, 14c, (acc. TK 90)

\*Vienna 5517, 15c, 269 fols. (apparently complete)

## 2. Liber trium iudicum (extracts)

Collation: Ms. Digby apparently contains three complete chapters; these are followed by the *Liber nouem iudicum I*. Loss of folio 205 does not seem to have removed any part of the texts concerned.

Contents: there are possible associations with ms. Digby 47, of pt. I with its fol. 105<sup>r</sup>, of pt. II with 128<sup>r</sup> (cf. also 15.1.14).

Title: Incipiunt quedam capitula extracta de Libro 3 iudicum.

I. Quid per singulos dies ab hora questionis ad noctem accidat. ORIENTE IGITUR firmato quota pars eius signi orta sit ... nec mal [-um?] non suggerat.

II. Quid de singulis annis debet accidere. ORIENTE QUIDAM firmato orientis dominus siue Lune siue qualibet alia ... respiciat uia bonum securus exspectet.

III. Capitulum de gradu conceptionis ... CONCEPTIONIS AGNITIONO ex Hermetis ergo et aliorum astrologorum sententia hoc

deprehensum est quoniam locus Lune in hora natali ... lunari loco natali scilicet oportet esse affimus (?).  
Manuscript: \*\*Oxford Digby 149, 13c, 202<sup>v</sup>-204<sup>v</sup>

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*Liber nouem iudicum I*

### 3. Fragments

Collation: with the texts indicated below, to which parts are closely related. For those parts of ms. Erfurt that I have seen, the text appears complete.

Text: The unity of Latin style and terminology, and the fact that several of the passages give every appearance of chapters in a single compilation, suggests that ms. Erfurt contains a compilation made in Arabic and translated more or less as it here appears. The sources mentioned are those of the *Liber nouem iudicum*. Part I deals with problems of light and meteorology and quotes Māshā'allāh, al-Kindī, and Dorochius.

I (115<sup>v</sup>-127<sup>v</sup>). Omar de stellarum lumine. STELLARUM LUMEN bipartitum est autem s (?) et retro Solis n radii 30° 15 ante et 15 retro siue 24 12 communi ... effectum unde uelocibus quidem stellis non ad quam de Luna erit iudicium.

II. De testimoniiis Lune ... Messahalle et Albenait. LUNA QUIA COLUMPNA ... loco ad quemlibet [= 1.16].

III. De lunari significatione Aristotelis. LUNA IN ARIETE ... domibus alibi habetur.

IV. 50 precepta in omni negotio Zael. HACTENUS ... grauari significat [= 3.7].

V. De accidentalī stellarum proprietate Alkindi. HIIS IGTUR taliter executis ... ambiguitate frequenter implicant [cf. 12.8, 16.1.7].

VI. De eligendo querentis Aomar. HIIS IGTUR dispositis tamquam utilis et summe ... in loco Solis exposita et hec que ratio postulauerit communiter transferantur [141<sup>v</sup>-146<sup>v</sup>, followed by 16.1.3 seq.].

VII. De hiis que ad primam domum pertinent Zael. ANTE OMNIA PRIMUM est oriens ... et sic de aliis [= 16.1.8].

Manuscript: \*\*Erfurt 4° 372, 14c, 115<sup>v</sup>-230<sup>v</sup> (first and last folios seen for each part)

### 4. Liber absconditorum

Collation: apparently a complete chapter or short tract, preceded by Māshā'allāh fragments (presumably through Abū Ma'shar no. 15), ending (7<sup>r</sup>) with a chapter: Hactenus in absconditorum iudicio Messehale auctoritatem secuti sumus ... Quod ut Zimus ait ... (cf. 16.1.56 seq.).

Inc.: Liber absconditorum Messehale. RERUM ABSCONDITORUM generi magis firma quedam species inueniendi subiacet de absconditis aut suffosis pecuniis thesaurisque ...

Expl.: ... cauda in loco horrido et tenebroso.

Manuscript: \*\*Boston Publ. Lib. 1488, 14c, 7<sup>v</sup>

### 5. Liber iudiciorum

Text: deals with material similar to no. 3 above. This text has not yet been examined.

Prol.: QUONIAM REX huius negotii diuersitas est ut nec pauca ...

I. De spatio uite. DEINCEPS INUESTIGEMUS horam questionis de spatio uite. Unde Messahala obseruandus est, inquit: ORIENTIS DOMINUS pariterque Luna dum autem orientis dominus fuerit ... in commoditates corporis numerant.

II. De quantitate et tempore luc<sup>i</sup> (?). Secundi ...

III. Modus iudicandi secundum Messahala. OMNIS IUDICANDA res est ut primum necessarium habet certissimam ducis inuentioni ... Messahala in libro suo qui septem clauas intitulator hoc artificium ordinat ...

Manuscripts: \*\*New York Plimpton 163, 15c, 13<sup>v</sup>-16<sup>r</sup>

\*Stalingrad Acad. Scien. AB-III, 13-14c, 168<sup>r</sup>-173<sup>r</sup> (expl.: ... de possessione et de ceteris inspicere)

### 16.—Liber nouem iudicum II

Text: a work composed in Arabic probably exactly in the form in which it is preserved in Latin, typical of the encyclopaedic period but limited, like the preceding, to certain early sources. Contents: in general comparable to those of *Liber nouem iudicum I*, but the sources are not the same: Abū Ma'shar was not used, and there are a number of quotations attributed to Ptolemy. Rare mention of 'Abuali' refers perhaps to Abū 'Alī al-Khayyât.

Form: based on a work by or doctrines of Sahl, in twelve parts according to each house.

### 1. Undetermined

Translator: A unified Latin style is evident throughout in regular affectations of style and frequent use of such words as *igitur*, *ursum*, *inquisitio*, etc.

Texts: The mss. here listed have been treated hitherto as separate tracts, though it is obvious that they are merely fragments of a single longer work.

Significance: mentioned by Western writers, and probably used by them for many of the quotations from the Arabic writers cited; no study has been made of verbatim correspondences to illustrate this problem. Leopold books 8-9 may well represent a summary of parts of *Liber nouem iudicum*.

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Anonymous  
Compilations



Collation: edit. 1571 is probably complete, though various questions are raised by the manuscripts. I have collated several key passages with edit. 1509 which show *literatim* correspondence suggesting that edit. 1571 is an exact reprint. The many important variant readings indicate that the editions are very corrupt and unreliable for detail.

1. De ratione inquirenda et modo Messehalla. RERUM OMNIUM que sub lunari circulo esse habent et uita fruuntur creatione habita earum communes quasdam et uniuersales mundane molis opifex Deus ... studiosus festinet.
2. De his que tam iudici quam querenti necessaria sint, Aomar. QUONIAM TOTIUS astronomie fructus circa rerum prouentus antequam fiant discernendos ... frequenter implicat.
3. De eligendo querentis et questionis duce, Aomar. HIS IGITUR [+ hac ratione] dispositis tamquam utilis et summe necessaria ducis uel potius significatoris ... exhibet ducatum.
4. Aliud de eadem re capitulum, Aomar. HIS IGITUR et huiusmodi hoc ordine prosecutis ... consimile pendet iudicium.
5. De cauda draconis, Aomar. NOTANDUM PRETEREA quoniam cauda draconis ambas ... mortem inducit.
6. Messehalla. IN OMNI TANTUM negotio consilii receptor, et quem ab oriente locum retineat uel obtineat principaliter ... quesita fieri prohibet.
7. Alkindus. HUIUS AUTEM effectus terminum sicut Alkindus docet gradus applicationis quibus quandoque dies ... postulauerit communiter transferantur.
8. De his que ad primam domum pertinent, Zael. ANTE CETERA OMNIA [INTER OMNIA CETERA] primum [plurimum] est ut prelocuti sumus oriens quod citius facta [totius scientiam] interrogatione ... corruptos minus fortunatum iudica.
9. De uita [Zael de hiis que uentura sunt in uita]. QUESTIO IGITUR de his que uentura sunt quotiens fuerit obiecta ... ad soluendum cognoscas. [+ Zael de modis quibus omnes questio fixa inititur.] Postremo quatuor principales modo ... contradicit. Rursum si modus in questione ... periculose min[us]iatur. Amplius quotiens uni alicui ... Consequenter uero signorum ... Stellarum necne ... in commune subitio.
10. Pro regno igitur questione. PRO REGNO igitur questione obiecta oriens ... (with horoscope and diagram) ... cohortatur et admonet.
11. De uita quantitatis, Albenait. PRIMA QUIDEM domus oriens scilicet [Solis et] uitam significat ... largitur minores.

12. De uita transacta et reliqua eius portione, Dorotheus [+ in prima domo]. SI QUIS de uita fecerit questionem orientis dominus [-um] et Luna ... uitandas ortatur.
13. De uita querentis transacta et reliqua eius portione, Iergis. ORIENTALIS FACIEI dominus quot in signo suo pertransit ... annos indubitanter ostendit.
14. Idem de eodem. GRADUS ENIM quos orientalis ...
15. Aristotelis de eodem ait. SI AUTEM scire desideras an multum ... insinuat breuiorem.

Second house: financial affairs, caps. 16-35

16. De his que ad secundam domum pertinent, Zael. SECUNDI POST oriens inquisitiones quotiens in medium producantur, cuiusmodi est pro quesito lucro ...
23. De thesauro et re qualibet occulta, Alkindus. DE THESAURO et re qualibet occultata utrum uidelicet premeditatus ...
33. De debitis, Albenait. SI UERO pro debitis questio in commune processerit ...
35. De re accomodata aut apud quemlibet deposita, Aristotelis. SI QUIS PRO recuperandis debitis aut deposito ... compelli ac tandem in uitus restituet.

Third house: relatives, caps. 36-39 (Tertii rursum questione proposita ut pro fratrum statu ...).

Fourth house: agriculture, caps. 40-55

40. De his que ad quartam domum pertinent, Zael. QUARTI INQUISITIONES cum ...
41. De terrarum agrorum et consilium statu, Alkindus. TERRARUM BIPARTITA ...  
On hidden treasures, caps. 56-62
56. De thesauris et rebus absconditis, Aomar. HOC IN GENERE negotii querentis ...
58. De thesauro uel re qualibet occulta Iergis. PRO THESAURO uel re qualibet occulta septimum ...

Fifth house: nativities, caps. 63-96; rumors and letters, caps. 97-127

Sixth house: medical, caps. 128-156; slaves, marriages, disputes, caps. 157-248

246. Cui rex faueat, Albenait. HIS IGITUR tali ordine deprehensis ut scilicet ...

On business transactions, caps. 249-260

249. De negotiatione et mercatum, Zael. NEGOTIANDI INQUISITIONES orientalis cum 7 domino applicatio pariter absoluit communis ... [BN 7329 60<sup>r</sup>-63<sup>r</sup>: POST HANC predictorum observationem ... (= Ptol. 21) ... nuncupari debet.] Quando [Quomodo] grauiiores sint aut leuiiores, Omar. UERUM AUTEM aliquando perferatur augmentum aut decrementum aut quando ...] ... aut [ante] susceptum pretium uenditionem [-orem] tollit.

250. De mercaturis, Aomar. NEGOTIANDI GENERALIS inquisitio lunare innuit [inquiritur] consilium ipsa enim ...
251. De mercaturis, Albenait. NEGOTIANDI ATQUE mercature questio habita ... pretium omnino fatalis.
252. De negotiatione, Dorotheus. RURSUM NEGOTIANDI questione preposita pro uenditore ... emptori mortem minatur.
253. De rebus uenalibus et eorum statu, Aomar. UICTUALIUM QUOQUE omnium [ostendunt] ex utriusque luminis cursu generalis ... locum ab oriente erit necessario recurrendum. (+ horoscope and diagram).
254. De pretio rerum uenaliū [De emptione rerum uenaliū Messehalla], Aomar. MESSEHALLA RURSUM sententia de [+ statu rerum] uenaliū inquit ... emptores multiplicat non tamen hec grauiora fuerint.
255. De comparatione rerum uenaliū, Aomar. THEBIT QUOQUE non minoris inter egyptiorum astrologos dignitatis [-arum] librum specialiter ad quandam suum scribens discipulum iuxta scilicet Ptolomei sententiam ... duorum peruersitas iudicium inducunt mediocre.
256. De rebus uenalibus, Alkindus. UENALIUM PRETIO si quis sollicitus ... in austrum uero contra.
257. De luminum [uenaliū rerum] significatione per singulos menses circa rerum uenaliū statum, Dorotheus. PRO UENALIUM [+ rerum] status qualitate discernenda hora coniunctionis Solis ... uenalia prouehuntur.
258. De uenaliū pretio, Iergis. IN HUTUSMODI cognitione habenda dominus anni ... tropica ingreditur faciendum erit.
259. Idem de eodem per singulos menses. SI UERO quid per singulos ... enim uictualia erunt leuiora.
260. De pretio rerum uenaliū, Iergis. SI IGITUR annalis [in animalibus] conuersionis [-imus] omnes fuerit Aries aut Pisces ... mediocritatem ubique ingerit.
261. De pretio rerum uenaliū, Aristotelis. QUOTIENS DE re ... lac et caseum [lucrum est et casuum] uendicat.
- On escaped slaves, thefts, law, friendships, etc., caps. 262-341
325. Ptolomeus. PRO LEGIS demum ac mansionis questione obiecta ... nobilitatem commendat.
- On war, hunting, fishing, caps. 342-376
- Eighth house: travel; Ninth house: dreams, alchemy, navigation, caps. 377-428
421. De somniis, Dorotheus. SOMNIORUM QUOQUE ueritas ab orientis speculatione ...
423. De alchimia, Zael. SCIENTIAM ALCHEMIE si quis ...
426. Ptolomeus. NAUIS ITAQUE uel nauigantium ...
- Tenth house: kings; Eleventh house: soul, hope, love, friendship, caps. 429-474

Twelfth house: horses, etc., caps. 475-481; meteorology, caps. 482-494

478. ... Zael. PRO UINDICTA rursum aut mortis cuiusquam aut illate iniurie ...
482. De qualitate aeris et temporum, Aomar. EX CONUENTU itaque uel oppositione ex Solis etiam in Arietem.... [Vienna 2436 inc.: Haomar de pluuiis. DE NATURA communi signorum et secundum ... a dextris aquas emanat.] ... rerum inuestigatione merito uendicauit [-abit].
483. De pluuiā et fulgore et tonitruis et uento, Aomar. SOL IGITUR decimum [20] Scorpionis gradum et etiam [et eius primum] punctum in grandines [ingrediens] ... materna [materia] quasi quadam educatione [aduocatione] necessaria sit.
484. De hora pluuiē et uentorum caloris et frigoris, Aomar [Dorochyus]. TEMPESTIUA ITAQUE imbrum uentorum caloris etiam et frigoris ... pluuias tamen indubitanter experta.
485. Idem de locis atezic. QUOTIENS ITAQUE Luna eundem cum Sole punctum occupet ... tarde pluuias enim indubitanter promittunt.
486. Idem de hora pluuiē. PLUIIARUM [DIUINARUM] ITAQUE dux aut minister utrum cardinem ... coruscationibus redundat [-ant].
487. De pestilentia guerra submersione exustione et terre motu, Aomar. NOTANDUM AUTEM in huiusmodi absolutione ... et pro stellarum habitu ubique iudicandum.
488. De aeris quantitate [qualitatibus] per singulos annos [+ Alkindus aliis Dorotheus]. AD PERFECTAM [PRESCIEN-TIAM ?] eorum que in hoc aere per singulos renouantur annos agnitionem ascendens conuentus ... in eodem ipsius [in eadem] contingat ascensus.
489. De annorum peste et salute, Alkindus. ASCENDENTE ANNI in primis locato deinceps quoque ascendentis conuentus ... tardus fortis et in signo frigido et sicco collocatus.
490. De imbris, Dorotheus [+ uel Alkindi]. ITEM [INTER] ARABUM astrologos Abuali quidam peritissimus de pluuiarum inundatione ... Saturno procedit Saturnus enim in aquaticis pluuias inducit.
491. De pluuiis [Sole itaque primum] per quartas anni, Dorotheus. SOLE ITAQUE primum Libre et Capricorni ... applicationem sicut de principio anni dictum est poterit deprehendi.
492. De imbrum cognitione per singulos menses, Dorotheus. SI AUTEM de imbrum cognitione per singulos ... Ueneri applicans pluuiarum inundatione gaudebit.
493. De quotidianis imbris, Dorotheus. QUOTIDIANOS RUR-SUM imbres lunaris [-ium] per singula signa progressio ...

in Aquarium et Pisces quacumque hora ingressus aerea  
conturbat et omnino peruertit.

494. De pluuiis, Iergis. SOL IGITUR quotiens ingreditur signum  
tropicum Uenus ... Luna ab eisdem separetur pluuias  
renouant.

On war, caps. 495-499

495. Cui uictoria detur de die scilicet egresso aut de nocte,  
Alkindus. BELLATORUM alter ille ... et fame audios  
interesse annuit.

496. Cui parti primates faueant, Alkindus. CUI ITERUM parti ...

499. De urbium obsidione, Alkindus. QUESTIONI UTRUM hostes  
urbem obsessuri ... prodit hostes persequitur exercitum  
turbat conuentum dispergit uires reprimit elatorum superbiam  
conculcat. Finis.

Editions: \*\*1509, Venice: Liechtenstein (parts seen: 1<sup>r</sup> = chap.  
1, 42<sup>r</sup> = chap. 254, 96<sup>r</sup> = 499)

\*\*1571 (March), Basel: Henricpetrina (with Ibn abi 'r-Rijâl,  
apparently reprinted literatim from edit. 1509)

Manuscripts: Cambridge Pembroke 227, 14-15c, 107-116 (chap.  
482 seq. acc. TK 251)

Dijon 449, 15c, 25<sup>r</sup>-34 (inc. = chap. 2)

\*\*Erfurt 4<sup>o</sup> 372, 14c, 141<sup>v</sup>-230<sup>r</sup> (parts seen: 141<sup>v</sup> = chap. 3,  
through 146<sup>v</sup> = chap. 7, and 230<sup>r</sup> = chap. 478; expl.: ...  
omnibus commendat et sic de aliis)

\*Erfurt 8<sup>o</sup> 82, 13c, 173<sup>r</sup>-176<sup>v</sup> (cap. 482)

\*Florence BN J III 28 (S. Marci 180), 14c, 20<sup>r</sup>-66<sup>r</sup> (cap. 1  
seq.; expl.: ... donec Luna ab ei fortunam (?) separetur  
pluuias renouant)

London BM Sloane 3277, 14-15c, -3<sup>v</sup>-5<sup>v</sup>

\*Madrid BN 10009, 13c, 145<sup>r</sup>-209<sup>r</sup> (cap. 1, 6, etc.; expl.:  
... sitque ipse ascendentis aut ipsius regni dominus)

\*Munich 228, 14c, 47-71

\*\*Oxford Digby 47, 14c, 104<sup>r</sup>-127<sup>v</sup> (fragments combined with  
other tracts; prol.: DEINCEPS IGITUR ab hoc introitu  
... (as if the work of Sahl, quoting Ptolemy and Hermes  
...); cap. 8-9 to: ... periculose minuatur; cap. 12, the  
rest not seen; expl.: De dignitate regis obtinenda aut  
eius uita Adomar in decima domo. SOLIS ITAQUE in  
Arietem ingressum ... tempus determinat; then cap. 489  
with its explicit)

\*\*Oxford Digby 47, 14c, 128<sup>r</sup>-154 (*Liber septem iudicum*,  
cap. 11-13, the rest not seen)

\*\*Paris BN 7329, 15c, 63<sup>r</sup>-66<sup>r</sup> (cap. 249-261, followed by 12A.1)

\*Vienna 2428, 12c, 160 fols. (expl. = ms. Florence)

\*\*Vienna 2436, 1c, 140 seq. (cap. 483-494 complete; inc.:  
De natura communi signorum ...; sign.: Finitur Liber  
nouem iudicum. Explicit Haomar de pluuiis)

# THE CLASSICAL PERIOD

## 17.—Al-Farghânî [Alfraganus]

Author: Abu 'l-'Abbâs Aḥmad b. Muḥammad b. Kathîr al-Farghânî,  
worked as engineer and astronomer (?) for al-Ma'mûn, died  
after 863; see Sarton 1.567, Br. '37, 392-393.

### 1. De scientia astrorum

Arabic: Fuṣūl [Kitâb] fi 'l-ḥarakât as-samâwiya wa jawâmi' 'ilm  
an-nujûm. I have collated the edition of Jacobus Golius, Oxford  
and Amsterdam, 1663-1669 (who gives his own Latin transla-  
tion) with ms. Princeton 967 (olim Garrett 135L), and found  
both adequate.

Contents: an introductory course in astronomy, based on Ptole-  
maic methods, with various lists of names (cities and regions,  
major stars, lunar mansions) and astronomical constants. For  
another version of the place names see ms. Vatican Palat.  
1377, 109<sup>v</sup>-110<sup>r</sup>.

Significance: widely used probably in being shorter and simpler  
than the *Almagest*.

Unidentified Latin manuscripts: The close similarity of the  
incipits of the two Latin translations has led to frequent  
confusion. The following mss. have not been properly identi-  
fied on this score: Zinner 2433-2443, Cambrai 927, Oxford  
Caius 456, Corpus Christi (Coxe 2.224), Savile 16 (Madan II<sup>2</sup>,  
6562), Seldon Arch. B 34.

### a. John of Seville (1137)

Collation: for my edition, of edits. 1493 and 1537 with mss.  
Oxford Auct. F 3 13 and Voynich 1 and the numerous fragments  
indicated in my edition; further of the above with both Arabic  
copies and with Gerard's translation; further of certain tech-  
nical information on stars, climates, lunar mansions, with  
Leopold, Thâbit, and Rijâl.

Text: abridged in chap. 1 only, by omissions of lists of names.

Title: *Differentie scientie astrorum.*

Invoc.: In Dei nomine et eius auxilio incipit liber Alfragani in quibusdam collectis scientie astrorum et radicum motus planetarum et est 30 differentiarum interpretatus a Iohanne hispalensi atque lunensi in Dei laude.

Inc. cap. 1: *Differentia prima in annis arabum et latinorum ... NUMERUS MENSIIUM ARABUM et latinorum est duodenus. Menses arabum incipiunt ab almuhammadi ...*

Expl. cap. 30: ... de eclipsi Solis et Lune quod sufficiat si Deus uoluerit.

Sign.: Perfectus est ... in Lunia a Iohanne hispalensi ... 20<sup>a</sup> die quinti mensis lunaris anni arabum 529 existente 11 mensis die martii era 1173 sub laude Dei et auxilio.

Editions: \*\*1493 (Sep. 3), Ferrara: A. Gallus Belfortis, edit. by Heremita

\*\*1537, Nuremberg: Ioh. Petreius (reprint of 1493 with new errors)  
1546, Paris

\*\*1943, Berkeley, Calif., edit by F. Carmody (from four copies collated with the Arabic)

Manuscripts: Cambridge Gonville 141/191, 125-161

Cambridge Gonville 504/271, 14-30

\*Erfurt 2<sup>o</sup> 378, 13-14c, 1<sup>r</sup>-18<sup>v</sup>

\*Erfurt 2<sup>o</sup> 395, 14c, 228<sup>r</sup>-238<sup>v</sup> (expl.: ... alti in eadem regione ascendet)

\*Erfurt 4<sup>o</sup> 330, 13-14c, 33<sup>v</sup>-50<sup>r</sup>

\*Erfurt 4<sup>o</sup> 348, 14c, 90<sup>r</sup>-110<sup>r</sup>

\*Erfurt 4<sup>o</sup> 351, 12c, 103<sup>r</sup>-130<sup>r</sup>

Erfurt 4<sup>o</sup> 385, 14c, 139<sup>r</sup>-142<sup>r</sup> (notes on this translation)

\*Florence BN J I 32 (San Marci 206), 13c, 19<sup>r</sup>-34<sup>r</sup>

\*Florence BN J II 20 (San Marci 200), 13c, 143<sup>r</sup>-167<sup>r</sup>

\*Lyon 328, 14c, 1<sup>r</sup>-(-21<sup>v</sup>)

Madrid Escorial e III 15

Madrid Escorial & IV 19, 51-79

\*Munich 534, 14c, 1<sup>r</sup>-12

\*\*New York, W. M. Voynich 1, 13c, 3<sup>r</sup>-27<sup>v</sup>

\*Oxford Digby 40, 12-13c, 89<sup>r</sup>-113

\*\*Oxford Auct. F 3 13, 14c, 176<sup>r</sup>-192<sup>v</sup>

Oxford Bodl. cat. Madan 2<sup>2</sup>.6562

\*Oxford Digby 168, 13-14c, 13<sup>v</sup>-21 (end lost)

\*Oxford Digby 190, 13-14c, -87

\*Oxford Digby 207, 14c, 1-16

\*Oxford Digby 228, 14c, 41-50

\*Paris BN 6506, 27<sup>r</sup>-38

Paris BN 7316A (?)

\*Paris BN 7377B, 99<sup>r</sup>-119<sup>v</sup>

Paris BN 7434, 52-77

\*Paris BN 14704 (St. Victor 848), 248<sup>r</sup>-259<sup>r</sup>

\*Paris BN 15171 (St. Victor 900), 66<sup>r</sup>-77<sup>r</sup>

Vienna 5417, 91-112 (?)

\*Vienna Dominican. 121, 14c, 146<sup>v</sup>-156<sup>v</sup>

b. Gerard of Cremona (before 1175)

Collation: an edition based on edit. 1910 and 2 mss. in Florence, collated with the other translation; edit. 1910 is fair but has been clumsily emended without notice.

Title: *Liber de aggregationibus scientie stellarum et principiis celestium motuum.*

Rubr. cap. 1: *De annis arabum et aliorum et nominibus ipsorum.*

Inc. cap. 1: *NUMERUS MENSIIUM ANNI arabum et aliorum omnium est 12 menses ...*

Expl.: ... iam ergo declarauimus de eclipsibus Solis et Lune quod sufficit intelligendi.

Edition: \*\*1910, Città di Castello, edit. by R. Campani (*Il libro delle aggreg.*)

Manuscripts: \*Basel F II 33, 14c, 44<sup>r</sup>-57<sup>r</sup>

\*Berlin 956, 12c, 19<sup>v</sup>-21<sup>r</sup> (to beginning of cap. 8)

\*Berlin 963 (lat. 2<sup>o</sup> 192), 15c, 18<sup>r</sup> seq. (to middle of cap. 29)

\*Bordeaux 419, 14c, 10-23

\*Florence Laur. pl. 29, 14c (Campani)

\*\*Florence BN II II 457, 14c, 15<sup>r</sup>-25<sup>v</sup>

\*\*Florence BN II IV 267, 15c, 34<sup>r</sup>-43<sup>r</sup>

Florence Magliab. 39, 74, 12-15c, 14-25

Stalingrad Acad. Scien. AB-III, 13-14c, 2-12 (CCAG 10.206)

\*Madrid BN 10009, 13c, 70<sup>v</sup>-84<sup>v</sup>

\*Munich 234, 15c, 1-37

\*Oxford Digby 215, 15c, 46<sup>v</sup>-75<sup>r</sup>

\*Paris BN 7195, 117<sup>r</sup>-137<sup>v</sup>

\*Paris BN 7267, 33<sup>r</sup>-40<sup>v</sup> (end lost)

\*Paris 7280, 1<sup>r</sup>-14<sup>v</sup>

\*Paris 7281, 1-15

\*Paris BN 7298, 124-142

\*Paris BN 7316A, 19-45

\*Paris BN 7400, 1<sup>r</sup>-17<sup>r</sup>

Paris 7413

\*Paris BN 16202 (Sorb. 972), 1-26

\*Paris BN 16654 (Sorb. 1820), 1-32

1 Venice 344, 175<sup>r</sup> seq.

\*Vienna 5277, 16c, 237<sup>r</sup>-248<sup>v</sup> (excerpts)

## c. Christmann

Text: complete Latin translation based on the Hebrew of Jacob bar Samson Anatoli, with extensive notes by the translator. (Al-Farghânî): Mention of this work under the title "Rudimenta astronomiae" normally indicates use of Christmann's Latin translation.

Editions: \*\*1590, Frankfurt, A. Wechselus  
1618, Frankfurt (acc. Houz. 1115)

## d. Note de differentiis Alphargani

Text: extracts or commentary based on John's translation.

Inc.: NOTANDUM PER Alfraganum continentur 30<sup>a</sup> differentie ...

Expl.: ... alter in meridionalibus.

Manuscript: \*Erfurt 4<sup>o</sup> 385, 14c, 139<sup>r</sup>-142<sup>r</sup>

## 2. De signis tonitruum

Inc.: BETONICA SIC legitur ... Betonica animas custodit et corpora ...

Expl.: ... hec sunt uirtutes betonice.

Manuscript: \*Cambridge Trinity 1081, 15c, 70<sup>v</sup>-76<sup>v</sup>

## 3. Canones

Text: apparently the same as 30.2. Attributed to Robert Grosseteste by S. H. Thomson, 1940, 103 (who lists 17 mss.).

Title: Incipiunt canones signorum et planetarum qui dicuntur Alfraganus.

Inc.: AD PRENOTANDAM diuersam [Ad probandam ueram aeris] dispositionem futuram propter diuersitatem motuum superiorum necesse est ...

Expl.: ... et sunt in signis aquosis.

Sign.: Expliciunt canones die 14 mensis magy anno Domini 1454.

Manuscript: \*Bordeaux 531, 15c, 69<sup>v</sup>-74<sup>v</sup>

\*Erfurt 2<sup>o</sup> 394, 14c, 147<sup>v</sup>-148<sup>v</sup> (expl.: ... ab alio fortitudine [-m] per malum alius (?) debilitatem; attrib. to Haly Abenrudian)

\*Oxford Digby 92, 14c, 5<sup>r</sup>-9 (expl.: ... mundus crearetur fuisse creduntur)

\*Vienna 5239, 14-15c, 29<sup>v</sup>-31<sup>v</sup> (inc. and expl.)

## 18.—Thâbit b. Qurra

Author: Thâbit b. Qurra b. Mirwân al-Harrânî' Abu 'l-Ḥasan; born 219/834, active in Bagdad, died 288/901; see Br. '98, 217-

218, Sarton 1.599-600. His works cover various fields in astronomy, mathematics, mechanics, and magic. He is said to have revised the *Almagest* (ms. Escorial 915, Paris BN 2497, see Br. '43, 227).

Works extant in Latin: Several appear no longer to exist in Arabic, several are no doubt spurious. Since his shorter tracts usually appear together, the mss. are presented in a single list.

## 1. De motu octauae spere

Text: known only in the two Latin translations, and in Europe; the theory of trepidation in Arabic literature is associated with az-Zarqālī, not with Thâbit.

Significance: known in Europe to all mediaeval writers on astronomy down to the 16th c.

## a. Undetermined (MM)

Collation: My edition, based on mss. Voynich 1 and Garrett 99, with various fragments, was controlled with the other translation; the text of ed. 1945 is better. Subsequently, I have re-edited, adding mss. Paris BN 7267, 7298, 7416B, 9335, and 11251, all good and complete.

Inc.: IMAGINABOR SPERAM equatoris diei et tres circulos in ea signatos qui sunt circulus orizontis et circulus lineae celi ...

Cap. 4: Cum uolueris scire quantitatem ...

Expl.: ... scias superfluitatem que est inter duos numeros et accipe ex ea quantum est proportio graduum quos habes ad digitos super numerum minorem cum quo instrasti in lineam numeri.

Editions: \*\*1941, Berkeley, Calif., edit. F. Carmody

\*\*1945, Barcelona, edit. Millás (in *Al-Andalus* 10, 98-108, with tables)

## b. Undetermined (N)

Collation: with the above; the text ends with chap. 3; the ms. used in my edition (Voynich 1) is otherwise complete and reliable.

Inc.: IMAGINABOR SPERAM equinoctii et tres circulos in ea signatos, orizontis uidelicet circulum et meridiei circulum ...

Expl.: ... ipsa secatur lineam meridiei in puncto A aliquando in puncto X aliquando in puncto R.

Edition: \*\*1941, with above.

## c. Commentarius

Collation: of ms. Vienna with the above; the commentary proceeds by lemmata and is not truly systematic.

Title: Commentarius in librum Thebit ben Corat de motu octaue spere.

Prolog.: UIS MOTUS et maxime corporum celestium pagina remanere.

Comm.: Imaginabor speram] Tractatus iste in quo Thebit ...

Expl.: ... clarius apparebunt.

Manuscript: \*\*Vienna 5311, 14-15c, 5<sup>r</sup>-13<sup>v</sup>

d. Commentary (by Campanus?)

Title: De motu Thebith siue diuersorum diuerse sententie de quantitate anni.

Inc.: CAMPANUS NOUARIENSIS in capitulo decimo compoti sui diffinit annum ...

Expl.: ... constat ergo ex predictis quam diuersa diuersi senserunt de quantitate anni.

Manuscript: \*Oxford Digby 178, 14c, 9<sup>r</sup>-11

2. De hiis que indigent expositione antequam legatur Almagesti (H)

Arabic: Tashīl al-Majisī, Krause p. 456.

a. Undetermined

Collation: My edition was based on ms. Garrett, collated with quotations in Vincent of Beauvais's *Speculum Naturale* 16.20, and cribs in mss. of al-Farghānī. Chap. 5 follows al-Farghānī chap. 21, and 6.6 follows chap. 12. Subsequently I have re-edited, adding mss. Paris BN 7195, 7215, 7298, 7333, 7416B, 9335, and 10268, all good and complete, and 7267 (end lost).

Title: Liber quem edidit Thebit filius Chore de hiis que ...

Inc.: EQUATOR DIEI est circulus qui describitur super duos polos orbis super quos mouetur ab oriente in occidentem. Orbis signorum est circulus ...

Expl.: ... propinqui Soli erunt tunc directi cursus et cum fuerint in oppositione Solis aut propinqui erunt retrogradi.

Editions: \*\*1941, with *De motu*

3. De recta imaginatione spere et circulorum eius diuersorum (I)

Text: Arabic unknown. Definitions and instructions in elementary astronomy, facts, and terminology.

Collation: with Leopold 1.1 for content. My edition of 1942 was based on ms. Garrett; the four editions show important variants, that of 1509 has, I believe, no value. Subsequently I have re-edited this work, adding mss. Paris BN 7195, 7267, 7298, 7333, and 7416B, all good and complete. The edit. by Millás is good.

Inc.: NOS IUXTA RECTAM imaginationem diuersorum inchoantes astrologie intelligamus ...

Expl.: ... suorum polorum magnos circulos habemus etiam zodiacum cum suis appendiciis non minus ceteris efficacem. Hec sunt que introducendis primo imaginanda occurrunt.

Editions: \*\*1509, Leipzig: Martinus Herbipolensis (with Sacrobosco, *Textus spere materialis*), A2<sup>r</sup>-A3<sup>r</sup>.

\*\*1518 (15 Jan.), Venice: Octavianus Scotus (with Sacrobosco, *Sphere cum commentis*), 1<sup>r</sup>-4<sup>r</sup>

\*\*1941, Berkeley (with above)

\*\*1942, Madrid, edit. by Millás (*Trad.* 313-316), from ms. Madrid 10009

4. De quantitate stellarum et planetarum et proportionem terre (Q)

Contents: astronomical and terrestrial constants, distances, and climates; these differ from the values stated in *De hiis*.

Collation: My edition was based on ms. Garrett and controlled by comparisons with al-Farghānī and with Leopold 1.5. Subsequently I have re-edited this work, adding mss. Paris BN 7215, 7298, 7333, 7416B, and 10268, all good and complete, and 7329 (end lost).

Inc.: PTOLOMEUS ET ALII sapientes posuerunt corpus terre communem mensuram qua ...

Expl.: ... sed proximus ei maior scilicet ille 185, quia quidam modicum remansit.

Edition: \*\*1941, Berkeley (with above)

Manuscripts: (a single list for M = *De motu*, undetermined translation, MM = 1a, N = 1b, H = 2a, I = 3 and Q = 4; Zinner confuses I and Q):

Basel F II 33, 14c (M 193<sup>v</sup>-194<sup>r</sup>)

Basel O II 7, 13c (M 66<sup>r</sup>-68<sup>v</sup>)

Breslau Stadt. 2.172, 14c (M 69<sup>r</sup>-73<sup>r</sup>, I/Q 73<sup>r</sup>-77<sup>v</sup>)

Breslau Univ. III 4<sup>o</sup> 1, 14c (I/Q 67<sup>r</sup>-68<sup>r</sup>)

\*Bruges 522, 14c (MM 81<sup>v</sup>-85<sup>r</sup>)

\*Cambridge Univ. II III 3, 13c (H 90-94<sup>r</sup>, Q 94<sup>v</sup>-96<sup>r</sup>)

Cracow 551, 14c (M 245<sup>r</sup>)

Cracow 601, 15c (M)

Cracow 1924, 13-14c (M)

Cracow 1970, 14c (M 63<sup>r</sup>-73<sup>r</sup>)

Cues 211, 15c (I/Q 332<sup>v</sup>-333<sup>v</sup>)

Cues 215, 14c (H 99<sup>r</sup>-101<sup>r</sup>, M 96<sup>r</sup>-98<sup>v</sup>, I/Q 95<sup>r</sup>-96<sup>r</sup>, I/Q 101<sup>r</sup>-102<sup>v</sup>)

Darmstadt 2661, 13c (M 130<sup>r</sup>-134<sup>v</sup>)

Dresden Db 86, 14c (H 222<sup>r</sup>-224<sup>r</sup>)

\*Erfurt 2<sup>o</sup> 376, 14c (MM 100<sup>v</sup>-102<sup>v</sup>)

- \*\*Erfurt 4° 348, 14c (MM 112<sup>r</sup>-114<sup>v</sup>, I 110<sup>v</sup>-112<sup>r</sup>)  
 \*Erfurt 4° 357, 14c (MM 120<sup>r</sup>-124<sup>r</sup>, I 96<sup>v</sup>-98<sup>r</sup>)  
 \*Erfurt 4° 362, 14c (MM 12<sup>v</sup>, expl.: ... diversitatis)  
 \*Erfurt 4° 367, 14c (MM 100<sup>r</sup>-102<sup>r</sup>, expl.: ... linea numerum ad 5<sup>o</sup>)  
 \*Erfurt 4° 369, 14c (I 183<sup>rv</sup>)  
 \*\*Erfurt 4° 376, 14c (I 106<sup>r</sup>-107<sup>r</sup>)  
 Erfurt 4° 384, 14c (M 112<sup>r</sup>-114<sup>r</sup>)  
 \*Erfurt 4° 385, 14c (MM 151<sup>r</sup>-153<sup>r</sup>, expl.: ... et Libre in duobus circulis)  
 \*Erfurt 4° 386, 14c (I 29<sup>v</sup>-30<sup>v</sup>)  
 \*\*Erfurt 8° 82, 13c (N 180<sup>r</sup>-182<sup>r</sup>)  
 \*Erfurt 8° 88, 13c (MM 88<sup>v</sup>-90<sup>v</sup>, I 80<sup>r</sup>-81<sup>v</sup>)  
 Escorial O II 10, 14c (MM 80-84, H 84-88, I 88-90, Q 90-94)  
 Florence Laur. San Marci 194, 14c (MM 66<sup>r</sup>-67<sup>r</sup>)  
 \*Florence BN. Conv. Sop. J X 40 (San Marci 201), 15c (MM 22<sup>r</sup>-28<sup>r</sup>)  
 Florence Medicea 3.11 (Q)  
 Florence Medicea 6.12 (Q)  
 Florence Medicea 29.3 (I)  
 Florence Medicea 29.38 (I)  
 Florence Medicea 30.28 (I)  
 Leipzig Univ. 1469, 14-15c (I/Q 303<sup>r</sup>-305<sup>r</sup>)  
 Leipzig Univ. 1482, 15c (I/Q 143<sup>r</sup>-144<sup>v</sup>)  
 Leipzig Univ. 1484, 15c (M 271<sup>v</sup>-273<sup>r</sup>)  
 Leipzig Univ. 1487, 14c (M 85<sup>r</sup>-86<sup>v</sup>)  
 London BM Arundel 268, 13-14c (Q 66-67, M, H)  
 \*\*London BM Harley 1, 14c (H 16<sup>r</sup>)  
 \*London BM Harley 13, 14c (H 120-123, I 123-124, M)  
 London BM Harley 3647, 14c (Q)  
 London BM McClean 165, 12c (Q 21<sup>r</sup>-22<sup>r</sup>)  
 Madrid BN 10009, 13c (I 17<sup>r</sup>-)  
 Madrid BN 10053, 13c (MM 2-3<sup>r</sup>)  
 Munich 27, 71<sup>r</sup>-79<sup>r</sup>  
 Munich 234, 15c (I 64<sup>r</sup>-66)  
 Munich 25004, 15c (M 174<sup>r</sup>-177<sup>r</sup>, I/Q 143<sup>r</sup>-145<sup>r</sup>)  
 \*\*New York, W. M. Voynich 1, 15c (MM 65<sup>r</sup>-69<sup>r</sup>, N 73<sup>r</sup>-74<sup>r</sup>)  
 Oxford Ashmole 1522 (I, Q)  
 Oxford Canon. misc. 45, 15c (Q)  
 Oxford Canon. misc. 499 (M)  
 Oxford Corpus Christi 254 (M)  
 Oxford Digby 20, 12-13c (R 1<sup>r</sup>-3)  
 Oxford Digby 168, 14c (H 68<sup>r</sup>-69<sup>v</sup>)  
 Oxford Magd. (I)  
 Oxford Savile 21, 13c (MM 153<sup>v</sup>-155<sup>v</sup>)  
 Oxford Tanner 192, 14c (H 106<sup>v</sup>-108)

- \*\*Paris BN 7195, 14c (MM 140<sup>v</sup>-143<sup>v</sup>, Q 139<sup>r</sup>-140, I 137<sup>r</sup>-139, H 143<sup>v</sup>-146<sup>v</sup>)  
 Paris BN 7214  
 \*\*Paris BN 7215 (MM 140<sup>v</sup>-143<sup>v</sup>, H 168<sup>r</sup>-170<sup>r</sup>, Q 132<sup>v</sup>-133<sup>v</sup>)  
 Paris BN 7239 (Q 107<sup>v</sup>-108<sup>v</sup>)  
 \*\*Paris BN 7267 (N 58<sup>r</sup>-58<sup>v</sup>, H 27<sup>r</sup>-28<sup>r</sup> [end lost], I 23<sup>v</sup>-24<sup>r</sup>)  
 \*\*Paris BN 7281 (130<sup>r</sup>-133<sup>r</sup>, fragments of MM 236<sup>r</sup>, 239<sup>v</sup>, 241<sup>r</sup>, 235<sup>v</sup>)  
 \*\*Paris BN 7298 (MM 81<sup>v</sup>-84<sup>r</sup>, H 84<sup>r</sup>-86, I 86<sup>v</sup>-88<sup>r</sup>, Q 88<sup>r</sup>-89<sup>v</sup>)  
 \*\*Paris BN 7329 (Q 107<sup>v</sup>-108<sup>v</sup>)  
 \*\*Paris BN 7333 (M 63<sup>r</sup>-65<sup>v</sup>, H 65<sup>v</sup>-68<sup>v</sup>, I 68<sup>v</sup>-69<sup>v</sup>, Q 69<sup>v</sup>-70<sup>v</sup>)  
 \*\*Paris BN 7416B (MM 93<sup>v</sup>-95<sup>r</sup>, H 86<sup>v</sup>-88<sup>v</sup>, Q 88<sup>v</sup>-89<sup>v</sup>)  
 \*\*Paris BN 9335, 14c (MM 141<sup>r</sup>-143<sup>r</sup>, H 23<sup>v</sup>-25<sup>r</sup>)  
 Paris BN 10265 (H 104<sup>r</sup>-, I 108<sup>r</sup>-, Q 110<sup>r</sup>-111<sup>v</sup>)  
 \*\*Paris BN 10251 (MM 1<sup>r</sup>-3<sup>r</sup>)  
 \*\*Paris BN 10268 (H 133<sup>r</sup>-138<sup>r</sup>, Q 138<sup>v</sup>-141<sup>r</sup>)  
 Paris BN 11251 (M 1<sup>r</sup>-3<sup>r</sup>)  
 \*\*Paris BN 16211 (MM 100<sup>r</sup>-104<sup>r</sup>, H 104<sup>r</sup>-108<sup>r</sup>, I 108<sup>r</sup>-110<sup>r</sup>, Q 110<sup>r</sup>-111<sup>v</sup>)  
 \*\*Paris BN nouv. acq. 1893, 14c (I 71<sup>v</sup>-, H 74<sup>r</sup>-, Q 77<sup>r</sup>-)  
 \*Prag 1442, 13-14c (MM 146<sup>r</sup>-149<sup>v</sup>)  
 Prag 1585, 15c, 120<sup>r</sup>-125<sup>v</sup> (a comm. on MM?), 126<sup>r</sup>-129<sup>r</sup> (H?)  
 \*\*Princeton Garrett 99 (MM 206<sup>r</sup>-209<sup>r</sup>, H 209<sup>r</sup>-212<sup>v</sup>, I 212<sup>v</sup>, 214<sup>v</sup>, Q 214<sup>v</sup>-216<sup>v</sup>)  
 St. Pauls Stiftsb. 26.4.21, 15c (I/Q 44<sup>v</sup>-46<sup>r</sup>)  
 \*Stalingrad Acad. Scien. AB-III, 13-14c, 19<sup>r</sup>-21<sup>v</sup> (MM - H) (CCAG 10.207)  
 Stams 12, 15c (M 132<sup>v</sup>-135<sup>r</sup>, I/Q 130<sup>v</sup>-132<sup>v</sup>, 137<sup>r</sup>-138<sup>v</sup>)  
 Utrecht 725, 15c (M 193<sup>v</sup>-199<sup>v</sup>, a comm.?)  
 \*Vatican 4083 (N 56<sup>v</sup>-57<sup>r</sup>)  
 \*Vatican 4775 (MM 83<sup>v</sup>-85<sup>v</sup>)  
 \*Venice S. Marco 8-69 (MM 22-26)  
 \*Venice S. Marco 14-165 (MM 46-49, others 49<sup>v</sup>-54<sup>v</sup>)  
 \*Vienna 2386, 14c (MM 8<sup>rv</sup>, H 7-8, I 7<sup>r</sup>-, ? 7<sup>v</sup>-8<sup>r</sup>)  
 Vienna 5145, 15c, (H 47<sup>r</sup>-51<sup>v</sup>, I 52<sup>r</sup>-54<sup>r</sup>, Q 54<sup>r</sup>-56<sup>v</sup>)  
 Vienna 5209, 16c (H 133<sup>r</sup>-145<sup>v</sup>)  
 \*\*Vienna 5277, 16c (MM 299<sup>r</sup>-302<sup>r</sup>, H 302<sup>r</sup>-305<sup>v</sup>, I 305<sup>v</sup>-307<sup>r</sup>)  
 \*\*Vienna 5311, 14-15c (M 5<sup>r</sup>-13<sup>v</sup> [a comm.], H 18<sup>v</sup>-20<sup>v</sup>, Q 21<sup>r</sup>-22<sup>r</sup>, I 18<sup>rv</sup>)  
 \*Vienna 5392, 15c, (H 233<sup>r</sup>-237<sup>r</sup>, I 237<sup>r</sup>-239<sup>r</sup>)  
 \*Vienna 5498, 15c (H 47<sup>r</sup>-52<sup>v</sup>)  
 Wolfenbüttel 2725, 14c (M 34<sup>r</sup>-49<sup>v</sup>)  
 Wolfenbüttel 2816, 15c (I/Q 7<sup>v</sup>-8<sup>v</sup>)

## 5. De Figura sectore

Arabic: Risāla fi 'sh-shakl al-qattā', ms. Paris BN ar. 2457, 164<sup>r</sup>-170<sup>v</sup> (there may be other mss. among those mentioned)

carelessly by Axel Bjørnbo in *Abh. z. Gesch. der Naturwiss. u. der Med.* 7, 1924, pp. 1-91), identified in the inventory as "Lettre ... sur le théorème tranchant," i.e. Menelaos' "règle d'intersection." On the *Sphaerica* of Menelaos (Greek lost) see Axel Bjørnbo in *Abh. z. Gesch. der math. Wiss.* 14, Leipzig, 1902, pp. 1-154, and Max Krause in *Abh. d. Gesell. der Wiss. zu Göttingen* ser. 3 no. 17, Berlin, 1936, pp. 1-254 plus (edition of the Arabic) 1-110.

Versions: discussed by Bjørnbo (1924, pp. 4-6, 79), but largely from imperfect information, so that he denies any close relationship between ms. BN 2457 and the Latin of Gerard of Cremona, and hastily dismisses another Latin translation (ms. Harley 1, 17<sup>r</sup>-18<sup>r</sup>; no mention is made of an unidentified translation [below: b] in the same ms.).

Significance: Bjørnbo (1924, p. 4) considers this work the oldest known Arabic presentation of spherical trigonometry. Note however that Thābit was still active after 879, the date of the astronomy of al-Battānī, which he quotes in *De motu*.

Contents: demonstrations starting from the last diagram of *Almagest* 1.13 (relettered and elaborated), with quotations from the text, but also with details from Menelaos 3.1 (that same diagram, i.e. the source of this part of *Almagest* 1.13, plus the diagram, relettered, of Menelaos 3.4, Bjørnbo, 1902, p. 91, fig. 51). Thābit's sources probably include the lost Arabic version of Menelaos made by al-Māhānī (died before 270/883, see Krause pp. 24-32), more archaic than the well-known translation of Abū Naṣr Maṣṣūr b. 'Irāq (edited by Krause, with German translation, completed in 398/1007 and translated by Gerard of Cremona).

#### a. Gerard of Cremona

Text: complete, based on the Arabic of Abū Naṣr. The variant in the incipit is related to the second unidentified version below (c), and the mss. in which it appears are attributed to Campanus; to judge by the variants given by Bjørnbo, this is merely a minor detail.

Prol.: QUOD DE FIGURA QUE nominatur sector dixisti [Intellexi quo dixisti de figura nominata alchata] et quod de ea quesuisti et de ipsius esse intellexi ... Et quamvis preter Ptholomeum ad hanc alius antecessit ...

Inc.: QUONIAM QUANDO SECUERINT se inter duos arcus AB BG duo arcus AD GE ...

Expl.: ... A ad B exceptis duabus modis quod diximus. Similiter quoque ... proportio enim combinationum reliquarum iam sublata est sicut ostendimus in his que precesserunt.

Appended text: Meslem filius Ameti inquit de illis que Ptholomeo addicendum necessaria fuerunt in figura sectore: fuit allatio demonstrationis super proportionem ... duos arcus GEA BDA ... corde dupli arcus VB ad cordam dupli arcus EB. Et illud est quod declarare uolumus.

Editions: \*\*1518 (19 Jan.), Venice: Giunti (with Sacrobosco, *Spera cum commentis*, 159<sup>r</sup>)

\*\*1924, Erlangen, by Bjørnbo, *op. cit.*, pp. 6-23 (app. 23-24)

Manuscripts: Basel F II 33

Dresden Db 86

Florence Laur. S. Marci 184, 15c, 80<sup>r</sup> (defective)

\*Erfurt 4° 349, ca 1400, 57<sup>r</sup>-65<sup>r</sup> (inc.: Intellexi ...)

\*Naples BN Borbonica E VIII 33, 97<sup>r</sup>-110<sup>v</sup> (used by Bjørnbo)

Oxford Bodl. Tanner 192, 14c, 106-108

\*Oxford Digby 168, 14c, 120<sup>r</sup> (excerpts)

\*\*Paris Arsenal 1035, 14c, 105<sup>r</sup>-110<sup>r</sup> (basis of Bjørnbo's edition)

\*Paris BN 7377B, 15c, 66<sup>r</sup>-72<sup>v</sup> (used by Bjørnbo)

Paris BN 7406

Turin R 4° 2

Vatican 3098

#### b. Unidentified

Text: same as above, not hitherto reported. One passage lacking in the Arabic and in Gerard seems to indicate a source (commentator?): "Inquit Michelem [sic] quoniam linea HT ..."

Prol.: INTER UNIERSAS GEOMETRIE speculationis figurasque que ad astronomie ... Hanc autem figuram ante Ptholomeum quamplures ...

Inc.: QUOTIENS INTER DUOS arcus AB et BG alii duo uidelicet AD et GE ...

Expl.: ... A et B si reliqua duo conuertantur interualla quia in reliquis ad hunc modum patebit, non ergo est igitur alius compositionis ordo. Explicit.

Appended text: QUONIAM PTHOLOMEUS in sectore figura composite fbuē propositionis et si oportebat minime assignauit ... alios duos GEA et BDA ... (end not seen).

Manuscript: \*\*London BM Harley 1, 14c, 22<sup>r</sup>-23<sup>r</sup>

#### c. Unidentified

Text: differs from the above toward the end.

Prol.: INTELLEXI QUOD DIXISTI super figuram que nominatur cata et quod interrogasti super apodoxi [sic] eius et nullam uidi geometricarum ... Et si quis preter Ptholomeum predixit aliquid de figura ista ...



Inc.: SI INTER DUAS PERIFERIAS AB et BG due periferie AD et GE ...

Expl. (after 18th mode) ... ex proportionibus reliquorum econuerso [est conuersio] secundum differentiam et est canonum huiusmodi.

Manuscripts: \*\*London BM Harley 1, 14c, 17<sup>r</sup>-18<sup>v</sup>

\*Oxford Savile 21, 13c, 151<sup>v</sup>-153<sup>r</sup> (expl.: ... DV GB quod oportuit ostendere)

\*Paris Mazarine 3642, 13c, 9<sup>r</sup>-12<sup>r</sup> (sample passages in Bjørnbo, 1924, pp. 24-25)

#### 6. De anno Solis

Arabic: Risâla fî sanat ash-shams bi 'l-arşâd, ms. London India Office 734 (Br. '98, no. 10). Not related to *De motu octauae spere*, as has been suggested.

Contents: a study of inequality of solar motion, using Ptolemaic methods, mathematical and chronological, with dated observations and 12 diagrams for the demonstrations.

#### a. Gerard of Cremona

Collation: of the complete text of ms. London Harley and the Arabic of the India Office. The latter lacks some hundred words torn off, the former has lost the last 600 words of the Arabic. The diagrams are essentially the same in both copies.

Significance: hitherto unknown observations and computations.

Inc.: ANTIQUIORES DISSENSERUNT in anno Solis et non fuit hec dissensio in quantitate temporis eius tantum sed et in modo inuestigandi quantitatem ...

Expl. Latin: ... regni Nabugodonosor in medio die in Aquario in 38° et 20'.

Expl. Arabic: ... transform the mean days to the adjusted days, we will do the opposite of what God wills.

Manuscript: \*\*London BM Harley 1, 14c, 19<sup>r</sup>-22<sup>r</sup>

#### 7. De imaginibus

Text: a single and unified Arabic work (original not extant) probably by Thâbit.

Contents: talismans used according to astrological practices for conjurations. The same materials are found in comparable tracts by Ptolemy and others, see *Mél. Pelzer*, pp. 229 seq. Note also the extensive material in Leopold 9.1-3.

Unidentified Latin manuscripts: Breslau Un. III 4° 1, 14c, 65<sup>r</sup>-67<sup>r</sup>, Cracow 793, 15c, 121<sup>r</sup>, Erfurt 4° 189, 14c, 68<sup>r</sup>-70<sup>r</sup>, Ghent 416, 15c, 24<sup>r</sup>-26<sup>v</sup>, Kremsmünster Stifts. 72, 15c, 145<sup>v</sup>-148<sup>v</sup>, Maihingen suff. 1 4° 47<sup>a</sup>, 15c, 26<sup>r</sup>-39<sup>v</sup>, Munich 27, 14-15c, 71<sup>r</sup>-79, 59, 15c, 239<sup>r</sup>-242<sup>v</sup>, Oxford Bodl. 463, 75<sup>vv</sup>; edition Frankfurt, 1559.

#### a. John of Seville

Collation: I have edited this text from mss. Florence BN, London Royal, Paris BN 7282, 16204, and Vienna 2378; all are complete but marked by many variants.

Prol.: Dixit Thebit Benkorat: Dixit Aristoteles: QUI PHILOSOPHIAM ET GEOMETRIAM et omnem scientiam legerit et astronomia uacuu fuerit ... Et iam dixit philosophus in 2° tractatu sui libri ...

Inc.: Pars prima in effectu et destructione. Dixit Thebith Bencorat: CUM UOLUERIS DE imaginibus aliquid operari, scito quod tradiderunt ... ad effugiendos scorpiones. Quod cum facere uolueris [uolueris exercere] incipies ...

Expl. part 5: ... seruorum seruorumque suarum ... accipe duos lapides molles ... ligatio scorpionum et ceterum animalium non curabis qualis esset hora, et si sequeris ordinem inuenies effectum.

Sign.: Perfectus [Explicit] ... translatus a Iohanne hispalensi ... ex arabico in latinum.

Manuscripts: \*Berlin 963 (2° 192), 15c, 199<sup>r</sup>-201<sup>r</sup>

\*Berlin 964 (2° 54), 15c, 213<sup>r</sup>-215<sup>r</sup>

\*\*Florence BN II III 214, 15c, 1<sup>r</sup>-4<sup>r</sup>

\*Florence Laur. pl. 30 cod. 29, 13c, 59<sup>r</sup>-60<sup>v</sup>

\*London BM Harley 80, 14c, -76 (see *Mél. Pelzer* 233)

\*\*London BM Royal 12 C 18, 14c, 10<sup>v</sup>-12<sup>r</sup> (corrupted with the other translation toward the end)

\*Oxford Digby 194, 15c, 145<sup>v</sup>-147<sup>v</sup> (see *Mél. Pelzer* 233)

\*\*Paris BN 7282, 14c, 29<sup>r</sup>-31<sup>v</sup>

\*Paris BN 7337, 15c, 27<sup>v</sup>-32<sup>r</sup> (acc. *Mél. Pelzer*)

\*\*Paris BN 16204, 14c, 534<sup>v</sup>-535<sup>r</sup>

\*Vatican Palat. 1369, 15c, 127<sup>v</sup>-129<sup>v</sup>

\*Venice S. Marco 343, 14c, 150<sup>r</sup>-153<sup>r</sup> (acc. *Mél. Pelzer*)

\*\*Vienna 2378, 15c, 41<sup>r</sup>-43<sup>r</sup>

#### b. De imaginibus uirgilii (astronomicis)

Text: apparently a prologue to the translation just described; the explicit suggests a revision of the text. Parts of ms. Milan were transcribed in *Mél. Pelzer* 231-232.

Title: Liber de imaginibus uirgilii; De imaginibus seu de tribus figuris magicis.

Prol.: CUM CETERIS ASTRONOMIE libris perlectis ueluti cursum [-uum] planetarum ... sollerter considerata est. In hoc finitur prologus et incipit liber imaginum Thebit Bencorath a Iohanne hispalensi ... translatus.

Inc.: Dixit Thebit Bencorath: ARISTOTELIS QUI LEGERIT ... (note that this corresponds rather to 7c below).

Expl.: ... quicquid uero fuerit [finitur] ex imagine ut ligatio scorpionis in astronomicis (the explicit of 7a above lacking the last 15 words).

Sign.: Explicit Thebit Bencorath de imaginibus astronomicis.

Manuscripts: \*Erfurt 2° 380, 14c, 139<sup>v</sup>-140<sup>r</sup>, text 140<sup>r</sup>-141<sup>v</sup>

\*Erfurt 4° 189, 14c, 68<sup>r</sup>-

\*Milan Ambr. A 183 inf., 14c, 73<sup>v</sup>-74<sup>r</sup> (acc. *Mél. Pelzer*, but TK 131 gives a different incipit: CUM CERNERIM planetarum cursus libri ...)

\*Paris BN 7282, 14c, 29<sup>r</sup> (with text of 7a above), and expl. of 7c)

#### c. Undetermined

Text: another translation of 7a above containing the complete text in the same form. I know of the preface given below only from ms. Erfurt 2° 174.

Collation: I have edited this text from mss. Erfurt 2° 395, 4° 174, and Paris BN 7272; of these the first is incomplete at the end, and the explicit of the last has been corrupted with that of 7a.

Preface (ms. Erfurt 2° 174): Cum licet secundum doctrinam sapientie in prouerbiis ...

Prol.: Dixit Thebit Benkorat: ARISTOTELIS QUI LEGERIT philosophiam et geometriam et omnem scientiam et alienus ab astronomia ... Dixit Aristoteles physicus in 2° tractatu sui libri ...

Inc.: Dixit Thebit: CUM UOLUERIS OPERARI de imaginibus, scito quod commendauerunt ... ad fugandos scorpiones. Cum ergo uolueris de ea operari, incipiens ...

Expl.: ... ipsi gloria in secula seculorum ... accipies duos lapides molles ... fuerit ex operibus imaginum ut ligatio scorpionis. [+ Et ceterarum animalium non curabis qualicumque eorum formas incipias, intellige [sed de fusione] quod exposui tibi [+ intellige], et si quesieris [sequeris] ordinem inuenies [et peruenies + postremum (?)] effectum ne dubites [sine dubio].

Manuscripts: \*Berlin 963 (2° 192), 15c, 140<sup>r</sup>-141<sup>v</sup>

\*Copenhagen Gl. Kgl. S. 3499, 15c, 86<sup>r</sup>-92<sup>r</sup>

\*\*Erfurt 2° 380, 15c, 140<sup>r</sup>-141<sup>v</sup>

\*\*Erfurt 2° 395, 14c, 124<sup>r</sup>-126<sup>r</sup> (last chapter, in 100 words, lost)

\*\*Erfurt 4° 174, 14c, 120<sup>v</sup>-121<sup>v</sup>

\*Oxford Ashmole 346, 14-15c, 113<sup>r</sup>-115<sup>v</sup>

\*\*Paris BN 7272, 14c, 170<sup>v</sup>-171<sup>v</sup> (explicit corrupt)

Vatican 4085, 14c, 101<sup>r</sup>-103<sup>r</sup> (acc. *Mél. Pelzer*, but TK 164 places below as 7d)

Vatican Palat. 1401, 103<sup>v</sup>-106<sup>r</sup> (*idem*)

Vatican Reg. 1452, 16<sup>r</sup> seq. (*idem*)

#### d. Fragment (?)

Text: form and contents not yet reported, possibly a fragment of 7a or 7c above.

Inc.: CUM UOLUERIS FUGARE scorpiones ...

Manuscripts: Klagenfurt Bishopr. 31 B 7, 14-15c, 28<sup>r</sup>-30<sup>r</sup> (acc. TK 216)

Vatican Palat. 1401, 103<sup>v</sup>-106<sup>r</sup>

#### 8. De imaginibus

Text: see *Mél. Pelzer*, 229-238.

Inc.: ASPECTUS AUTEM planetarum sic potes ...

Manuscript: Munich 14684, 14c, 79-80 (TK 65)

#### 9. Liber karastonis

Arabic: Risāla fi 'l-qarastūn (from Greek chariston), ms. India Office 767 pt. 7, see Th. 1.663, *Bibl. Math.* 1911-12, 21-39, and Ernest A. Moody and Marshall Clagett, *The Medieval Science of Weights*, Madison, Univ. of Wisc. Press, 1952 (presentations of various texts on this subject).

#### a. Undetermined

Title: Liber karastonis de ponderibus siue de statera.

Inc.: [Dico ergo quod] OMNIUM DUORUM spatiorum que duo mota secant ...

Expl.: ... et faciet te cognoscere casum erroris.

Edition: \*\*1952, by Moody and Clagett (see above), pp. 88-116, facing English trans. (and 15 mss.)

#### 10. De proportionibus

Text: also attributed to al-Kindī and to Campanus. (Thābit): There is probably a general confusion between 18.10a, 18.10b, and 20.12 (Aḥmad de Proportione) of attribution, title, prologue, and incipit. Another classification gathers, under the incipit "Proportio est duarum quantitatum ...," the following mss.: Florence Laur. pl. 29 cod. 27 (expl.: ad secundum) and S. Marci 184 (expl.: D ad F non componitur), Milan Ambros. A 203 inf., 15c, 1<sup>v</sup>-4<sup>r</sup>, and D 186 inf. 112<sup>r</sup><sup>v</sup> (expl.: ad secundum), Paris 7377B, 94<sup>v</sup>-98<sup>r</sup> (expl. id.), and Vienna 5277, 307<sup>v</sup>-320<sup>v</sup> (expl.: quod est propositum).

#### a. Robertus Anglicus

Inc.: PROPORTIO EST DUARUM quantitatum eiusdem generis ad inuicem habitudo ...

Expl.: ... quod A ad B ponatur et C ad D et E ad F, 36 erunt tantum utiles.

Manuscripts: \*Florence BN J V 18 (S. Marci 216), 14c, 33<sup>r</sup>

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b. Undetermined

Thâbit b.  
Qurra

Inc.: PROPORTIO EST REI ad rem determinata secundum quantitatum ...

Last proposition: 18<sup>a</sup> modus est quod proportio quinti ad sextum ... quinti ad primum.

Last demonstration: Hôc est proportio E ad ... alii a supradictis modis ut omnes pariter fiant 36.

Manuscripts: \*Erfurt 4<sup>o</sup> 376, 14c, 117<sup>v</sup>-119<sup>v</sup> (attrib. to Jordanus Nemorarius)

\*\*Florence BN J I 32 (S. Marci 206), 13c, 165<sup>r</sup>-167<sup>v</sup>

\*Milan Ambros. A 203 inf., 1<sup>r</sup>-4<sup>r</sup>

\*Oxford Savile 21, 13c, 150<sup>v</sup>-151<sup>r</sup>

\*Toledo Cath. 98-22, 14c, 66<sup>r</sup><sup>v</sup> (attrib. to Jordanus)

11. Liber quartus Platonis

Text: clearly Hermetic, of unknown content and scope, and as here reported probably fragmentary. There seem to be three different though interrelated works, but no collation has yet been made of them.

a. [attributed to Thâbit]

Inc.: Dixit Thebith [+ Dixit Eubohabes] Hames filio Hasam: ABREUIA NOBIS quod de reuelatione occultorum intellexisti et expone librum senioris Platonis ...

Expl.: ... Dixit Plato: et qui cognouit] cognouit quod quedam dictorum nostrorum etc. Hic deficient multa.

Edition: 1622, Argentorati (in *Theatri chemici*, vol. 5, pp. 114 seq.)

Manuscripts: Bologna Univ. 138, 15c, 216<sup>v</sup>-221<sup>v</sup> (Dixit Plato ... omnibus diebus uite sue = expl. of version b below).

Oxford Canon. misc. 500, 136 (acc. Th. 2.782)

\*Oxford Digby 219, 16c, 120<sup>r</sup>-143

b. [another version]

Inc.: Dixit Thebit: Dixit Eubohabes Hames filio Esaym filio Gohar: ELEGIMUS APUD finem libri Estolica ...

Expl.: ... ego deprecor ... diebus uite sue.

Manuscript: \*Paris BN 6514, 88<sup>r</sup>-101<sup>r</sup> (acc. Corbett, p. 25)

c. Platonis libri quatorum cum commento

Inc.: Platonis libri quatorum cum commento Hebuhabes Hamed Platonus. CONSIDERAUI RES EX quatuor naturis et inueni herbas ...

Expl.: ... lucerna cum sint uacui ea.

Manuscript: \*Paris BN 5055, 177<sup>r</sup>-180<sup>v</sup> (acc. Corbett, p. 13)

11d. Other versions (?)

Texts: several with different incipits etc. associated with the above by TK 214, 216; the incipits include: IN NOMINE DEI ..., DIXIT [+ senior] PLATO ..., DIXIT PLATO cum res ex eodem ..., HEC SCIENTIA incipit a potentia ... These are said to be alchemical.

12. De spera

Text: part of a work attributed to Andalò di Negro, attributed to Thâbit in margin. The incipit of book 3 is taken verbatim from Gerard of Cremona's translation of Theodosius *De spheris* (Spericum est corpus rotundum una tantum superficie contentum ...)

Inc.: MUNDUS EST uniuersitas rerum uisibilium cuius centrum est terra superficies ...

Expl.: ... inhabitabilis est circumquaque similiter et zone frigide.

Manuscript: \*\*Paris BN 7272, 14c, 60<sup>r</sup>-63<sup>v</sup>

13. Liber prestigium

Text: Also ascribed to Hermes. Discusses trepidation. See *Mél. Pelzer*, 227-229, Haskins, 30. Latin by Adelard of Bath. The first words are another translation of no. 7 above.

Prol.: QUICUMQUE GEOMETRIA atque philosophia peritus astronomie experts fuerit otiosus ...

Expl.: ... ut prestigiorum artifex facultate non decadat.

Sign.: Liber prestigiorum Elbidis secundum Ptolomeum et Armetem per Adhelardum Bathoniensem translatus explicit.

Manuscripts: Lyon 328/261, 14c, 69<sup>r</sup>-74

Vatican 10803, 62<sup>v</sup>-66<sup>v</sup> (acc. Th.)

Vatican Palat. 1401, 14-15c, 39<sup>v</sup>-41<sup>v</sup>

19.—Al-Battânî [Albategni]

Author: Muḥammad b. Jâbir b. Sinân al-Battânî al-Harrânî, Abû Abd Allâh, born before 244/858, active at Ar-Raqqa, died 317/929; see Sarton 1.602-603, and Nallino.

1. De scientia astrorum

Arabic: critical edition by A. Nallino, with modern Latin translation, notes, analyses and extensive tables. A formal astronomy improving on the work of Ptolemy, frequently quoted by Latin writers.

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## a. Plato of Tivoli

Collation: edit. 1537 is complete and fully adequate.

Title: Liber Machometi filius Geber filii Cineni seu Albategni qui dicitur Machometus de scientiis [in numeris] astrorum [stellarum] quem librum idem Plato transtulit de arabico in latinum; Geber seu Albategni seu primum Almagesti de numeris et motibus stellarum.

Prol. of translator: INTER UNIERSA LIBERALIUM artium studia que Grecos ... adiutorem inuoco.

Inc.: Machometus ... inquit: IN CUNCTORUM OPERUM initiis omniumque rerum exordiis ...

Expl. (cap. 57): ... a zenith capitū de 60 minueris reliquum erit altitudinis arcus.

Editions: \*\*1537, Nuremberg (with al-Farghānī)

\*1645, Bologna: typis haeredis Victorii Benatii, edit. by Bernardinus Ugolettus

Manuscripts: \*Erfurt 4° 350, 15c, 96 fols (ends in cap. 55)

Erfurt 4° 364, 14c, 1<sup>r</sup>v (fragment of the tables)

Milan Ambros. H 109 sup.

\*Oxford Digby 40, 12-13c, 116<sup>r</sup>-145 (ends in cap. 30)

\*Oxford Digby 51, 13c, 1-18 (begins in cap. 44)

Paris BN 7266, 14c, 47<sup>r</sup>-112<sup>v</sup>

Paris BN 16657, 14c, 1<sup>r</sup>-82<sup>r</sup>

Vatican lat. 3098, 14c, 110<sup>r</sup>-144<sup>v</sup>

Venice Marc. VIII cod. 14, 15c, 47<sup>r</sup>-85<sup>v</sup>

Vienna 5258, 15c, 75<sup>r</sup>-76<sup>v</sup> (fragment)

## 20.—Aḥmad b. Yūsuf [Hametus filius Iosephi]

Author: Aḥmad b. Yūsuf b. Ibrāhīm Abū Ja'far al-Miṣrī, active in Egypt, died ca. 912; see Sarton 1.598, Duhem 3.217.

Works: on geometry (Euclidean). To him, as also to 'Alī b. Riḍwan, is attributed the commentary on Ptolemy's *Centiloquium*.

## 1. De proportionione et proportionalitate

Contents: geometry, on linear proportions, with typical Greek presentation by propositions and diagrams. Mentions one 'Ametus filius Talonis' in the Latin. See remarks under 10 (De proportionibus) above.

## a. Gerard of Cremona

Significance: extensively quoted and mentioned by European writers and encyclopaedists, perhaps as being more available or more practical than Euclid.

Collation: Ms. Vienna 5277 apparently contains the complete text in good form, with explicit confirmed by the other copies marked with [\*].

Prol.: IAM RESPONDI TIBI ut scias quod quesuisti de causa geometrica ...

Expl.: ... AB ad AD, et est proprie [proportio] CD ad BG. Et illud quod declaravi uobis.

Sign.: Explicit epistola Ahmeti filii Iosephi de proportionione et proportionalitate.

Manuscripts: \*Florence BN J V 18 (S. Marci 216), 14c, 87<sup>r</sup>-91<sup>v</sup> (first propositions lost)

\*Madrid BN 10010, 14c, 69<sup>v</sup>-77<sup>r</sup> (expl.: ... circuli HGD ..., end lost)

Oxford Ashmole 357, pt. 14

Oxford Digby 168, 13-14c, 127<sup>v</sup> (fragment)

Paris BN 7377B, pt. 7

\*Paris BN 9335, 14c, 64<sup>r</sup>-74<sup>v</sup>

\*Toledo Cat. 98-22, 14c, 81<sup>r</sup>-86 (? acc. Millás)

\*\*Vienna 5277, 16c, 307<sup>v</sup>-320<sup>v</sup>

\*Vienna 5292, 15c, 158<sup>r</sup>-179<sup>v</sup>

## 2. De arcubus similibus

Text: geometry; see Sarton 1.598, *Bibl. Math.* 1889-90, 15-16 (with analyses and further samples of the text) and 1902, 69.

Attributed to Jordanus in ms. Digby.

## a. Gerard of Cremona (?)

Inc.: GEOMETRE EOS ESSE arcus similes dicunt qui angulos recipiunt equales ...

Edition: 1887, Vienna, by M. Curtze (and 4 mss.)

b. Epistola Abuyafar Ameti filii Iosephi de arcubus similibus

Prol.: HIC POSTQUAM optauit ei bona euenire cui epistolam mittit inquit: SI LOQUI inceperis de arcubus similibus ...

Inc.: OMNES GEOMETRE diffiniunt arcus similes ...

Expl.: ... nam differt comparationis in eis sunt equalitas et diuersitas et similitudo et dissimilitudo.

Manuscripts: \*Oxford Digby 168, 13-14c, 125<sup>v</sup> (extracts)

\*Paris BN 9335, 14c, 30<sup>r</sup>-31<sup>v</sup>

## 21.—Qusṭa b. Lûqâ [Quosti filius Luce]

Author: Qusṭa b. Lûqâ al-Ba'labakkî, born in Baalbeq ca. 205/820, active in Bagdad, died ca. 300/912; see Br. '37, 365, '43, 222-223, Sarton 3.427, *Bibl. Math.* 1908, 111-122; for philosophical works in Latin see TK 120, 364, 558, 563, 701.

## 1. De sphaera solida (uolubili)

Arabic: Kitâb al-'amal bi [Risâla fi] 'l-qurra al-fulkîya, 65 caps., canons for use of the celestial astrolabe; Krause p. 458. On contents see *Isis* 35.287-293; a Spanish translation in the *Libros del saber* 1.153-208.

## a. Stephanus Arlandi (ca. 1319)

Translator: see *Isis* 13.89-90.

Collation: The text in ms. Vienna appears to be complete; it is divided into chapters with titles.

Prol.: Dixit Quosti filius Luce: Augeat Deus ualorem principis ... Et figura terre et diuersitatis habitantium in ea et motus celi ...

Inc.: SPERA EST UAS quoddam optime solidatum in supremo aeris (?) cum infra quoddam circulum fixum ...

Expl.: ... ostendet tibi numerum graduum declinationis stelle illius a puncto cenith in uilla illa Deo gratias [= Krause].

Manuscripts: Oxford Canon. misc. 340, 14-16c, 25-49 (TK 303, inc.: HUIC OPERI uero ad honorem Dei ...)

\*\*Vienna 5415, 15c, 192<sup>r</sup>-210<sup>v</sup>

## 2. Liber de forma orbium coelestium

Manuscript: Oxford Canon. misc. 340 (acc. Thorndike)

## 3. Astronomia

Also attributed to Hermann Contractus; ms. Leyden Univ., 13c (acc. Houz. 1262).

## 22.—Ar-Râzi [Rhazes]

Author: Muḥammad b. Zakariyâ' ar-Râzi Abû Bakr, born 251/865, active in Bagdad, died (acc. to Deremb.) 390/932; in Latin Rhazes, Rasis, Albubethi filii Zacharie, etc.; see Br. '98, 233-235, '37, 417-419, Th. 2.752, Sarton 1.609-610.

Works: Br. lists 61 titles, TK lists 34 titles, of which 5 in edit. 1493, others in ms. Caen 92/399, Prag 1256, 1366, etc., all medical; see Corbett, p. 30, etc., for alchemical tracts.

## 1. Iudicia [Capitula] Almansoris

Authorship: in some doubt.

Title: Kitâb at-Ṭibb al-Manṣûrî (Br. '37, 419, no. 2), dedicated to Abû Ṣâliḥ al-Manṣûr ibn Ishâq al-Ḥakim, calif (died 302/914-915); editions of the Arabic, Halle 1776 and Leyden 1903; mss. Escorial (Deremb.) 819-821, 858, BN 6203.

Contents: Ten books, 150 or 164 aphorisms, based on Greek sources, Hippocrates, Galen, Oribasius; rules and prognostications according to aspects; apparently related to the *Centiloquia* of Ptolemy, Bethem, and Hermes for the aphoristic form.

Unidentified Latin mss: Prag cat. 1265, bks. 9-10, 15c, 64 fol., Vienna 2451, 14c, 30 fol., Wiesbaden 56, 15c, 152-253. The differences in length suggest the presence of an extended commentary.

## a. Plato of Tivoli

Collation: quotations below are fully attested in copies marked [\*\*].

Title: Almansoris iudicia seu propositiones; Centiloquium [Capitula stellarum] oblatum regi magno sarracenorum Almansor astrologo filio Abre iudei a tiburtine Platone translata.

Prol.: Aphorismorum compendiolum Mansori rex petiisti ut tuis satisfaciam uotis ...

Inc. aph. 1: SIGNORUM DISPOSITIO EST ut dicam: ab Ariete sit initium unum scilicet est diurnum, alterum uero ...

Expl. aph. 150: ... dabit fortitudinem et regnum in quo nulla fiet iniustitia.

Sign.: Perfectus est liber capitulorum Almansoris cum Dei auxilio, translatus de arabico in latinum a Platone tiburtino in ciuitate Barchinona anno arabum 530 18 die mensis dulkigida [dialkiada] Sole in Uirgine 1° 5' Luna in Ariete 15° 16'.

Editions: 1481, Milan (acc. Sarton 1.609)

\*\*1484, Venice (omn. 1)

\*\*1492, Venice (omn. 2), 5<sup>r</sup>-6<sup>v</sup>

\*\*1493/4, Venice (omn. 3), 120<sup>v</sup>-122<sup>r</sup>

1497, Venice (acc. Houz. 3866 and 3940)

\*\*1501, Venice (omn. 4), 26<sup>r</sup>-28<sup>r</sup>

1510, Venice (acc. Houz. 3866)

\*\*1519, Venice (omn. 7), 113<sup>v</sup>-115<sup>v</sup> (= 109<sup>v</sup>-111<sup>r</sup>)

\*\*1533, Basel (omn. 9)

1544, Basel (acc. Br. '37, 419)

\*\*1551, Basel (omn. 3), 93-100

1581

1641, Ulm (omn. 17)

1674, Ulm (omn. 17)

Manuscripts: Admont 2° 363, 14c, 39<sup>r</sup>-41<sup>r</sup>

Baltimore Walkers Art Gal. 428, 13c, 239-241

\*Berlin 963 (2° 192), 15c, 119<sup>r</sup>-121<sup>r</sup> (end lost)

\*Berlin 963 (2° 192), 14c, 205<sup>r</sup>-207<sup>r</sup>

Boston Medic. 4, 15c, 51<sup>r</sup>-58<sup>v</sup>

- \*Boston Publ. 1488, 14c, 30<sup>v</sup>-(33)  
 Cambridge Trinity 1185, 16c, 185<sup>v</sup>-188  
 Cambridge Trinity 1307, 14c, 95-98 (in English)  
 \*Erfurt 2° 386, 14c, 50<sup>v</sup>-52<sup>r</sup>  
 \*\*Erfurt 2° 394, 14c, 85<sup>v</sup>-87  
 \*Erfurt 4° 365, 12c, 1-18 (expl.: ... esset natus)  
 \*Erfurt 4° 377, 14c, 13<sup>r</sup>, 16<sup>r</sup>-19<sup>r</sup>  
 \*Erfurt 4° 386, 14c, 15<sup>v</sup>-19<sup>r</sup>  
 Ghent 416, 15c, 42<sup>r</sup>-45<sup>v</sup>  
 Leipzig Univ. 1476, 15c, 10<sup>v</sup>-12<sup>v</sup>  
 \*London BM Harley 3731, 15c, -170<sup>v</sup> (end seen)  
 \*Madrid BN 10009, 13c, 106<sup>r</sup>-108<sup>v</sup>  
 Madrid Esc. J. H 7, 15c, 169<sup>v</sup>-172  
 Maihingen suff. 1. 4° 47<sup>a</sup>, 15c, 79<sup>v</sup>  
 Munich 35, 13-14c, 156-219  
 Munich 40, 14c, 1-74  
 Munich 41, 14c, 98-115  
 Munich 228, 14c, 27<sup>r</sup>-29<sup>v</sup>  
 Munich 11067, 15c, 60<sup>r</sup>-64<sup>v</sup>  
 \*\*Oxford Digby 51, 13-14c, 131<sup>r</sup>-133<sup>r</sup> (incomplete?)  
 Oxford Digby 874 (fragment)  
 \*Paris BN 7316A, 14c, 53<sup>r</sup>- (inc. seen)  
 \*Prag 433, 15c, 201<sup>r</sup>-203<sup>v</sup>  
 Prag 1832, 15c, 34<sup>r</sup>-36<sup>v</sup>  
 Toledo Cathedral 98-18, 18c, 41<sup>r</sup>-60<sup>r</sup>  
 \*Vatican Palat. 1368, 15c, 35<sup>r</sup><sup>v</sup> (see Saxl 1.12)  
 \*\*Vatican Palat. 1369, 15c, 137<sup>r</sup>-139<sup>r</sup>  
 Vatican Palat. 1445, 15l (fragment)  
 Venice VIII, 74 (XI, 107), 15c, 42-48  
 Vienna 2296, 13c, 2<sup>r</sup>-62<sup>v</sup> (title only)  
 \*Vienna 2436, 14c, 242<sup>r</sup><sup>v</sup> (end lost; attrib. to Abû Ma'shar)  
 Vienna 3124, 15c, 16<sup>r</sup>-20<sup>v</sup> (title only)  
 Vienna 5259, 15c  
 Vienna 5400, 15c, 228<sup>r</sup>-251<sup>v</sup>  
 Vienna 5484, 15c, 1<sup>r</sup>-52<sup>r</sup>

## 2. Liber Almansorius

Text: According to Th., this work should be entitled *Decem libri Almansorius Rasis*, and is entirely different from no. 1 above, though the text, or part of it, is like no. 3 below.

Collation: The details given below are based on the catalogues.

Title: Incipit liber Abubecri Arazi filii Zacharie qui ab eo uocatur Almansorius eo quod regis Almansoris filii precepto editus sit. Uerba sunt Albubeth.

Prol.: In hoc libro aggregabo regi cui benedicat Dominus ...

Inc.: CREATOR OMNIUM DEUS ossa condidit ...  
 Expl.: ... ad finem perduximus gratie sint infinite.  
 Sign.: Explicit liber capitulorum Deo laus eterna qui nos bono fide ducat ad superna prece katrini amen.

Editions: 1500, Venice (*Opera*), pp. 1-59

1510, Lyon (*Opera parua*)

Manuscripts: \*Bruges 463A, 14c, 1<sup>r</sup>-99<sup>r</sup>

\*Caen 92/399, 14-15c, 43-122

Munich 759, 14c, 2-73

Paris Maz. 3599, 15c, 62-65

\*Prag 1248, 14c, 1<sup>r</sup>-56<sup>v</sup>

\*Vatican 4425, 15c, 1<sup>r</sup>-45<sup>r</sup>

\*Venice 14-13 (fa 535), 14c, 1-44

## 3. Liber nonus Almansoris

Inc.: QUANDO RUBEDO ET tensio et grauedo in ...

Expl.: ... erit donec sanctus etc.

Editions: 1480, Padua (acc. Br. '37, 419)

1483, Venice (*idem*)

1490, Venice (*idem*), by Jean de Tournemire (acc. Sartou 1.609)

1533, The Hague

1560, Venice, 1<sup>r</sup>-407<sup>v</sup>

Manuscripts: Bern A 38, 15c, 1<sup>r</sup>-20<sup>r</sup>

Florence Laur. Ashb. 143 (217/49), 15c, 1<sup>r</sup>-22<sup>v</sup>

Munich 75, 14-15c, 65-95 (Nonus Alm.), 1-48 (comm.)

Munich 411, 14-15c, 145-186

Vienna 2451, 14c, 30 fols.

\*Vienna 5155, 15c, 138<sup>r</sup>-224<sup>v</sup>

## Commentaries

Unidentified: Ann Arbor Univ. Mich. 208, 16c, 459 fols.; Munich 75, 14-15c, 1-48.

## a. Iohannes Arculanus

Inc.: EXPOSITURUS NONUM Almansoris reiectis superfluis ...

Edition: 1493, Venice (TK suppl. 353)

## b. Dominicus de Ragusia

Inc.: INCIPIUNT RECEPTE ordinate secundum experientias ...

Copy: TK suppl. 355

## c. Gerhardus de Solo

Inc.: ... (lost) ... De spasmo ...

Sign.: Lectura Gerhardi de Solo super nono Almansoris.

Manuscript: \*Prag 1259, 14c, 1<sup>r</sup>-31<sup>r</sup>

## d. S. de Nigris

Edition: 1497, Venice ('cum expositione S. de Nigris de Papia ut et receptae P. de Tusignana super eodem' acc. Houz. 3924)

## e. Unidentified

Abû Bakr

Inc.: QUOD MIHI GRATIA laboris euitandi ...  
Manuscript: Vienna 5239, 1-63 (TK suppl. 361)

## 23.—Abû Bakr [Albubather Alkasan]

Author: Abû Bakr al-Ḥasan ibn al-Khaṣīb al-Farīsī al-Kūfī, active early in the ninth century; see Br. '37, 394, Sarton 1.603, Th. 2.221.

## 1. De natiuitatibus

Arabic: Al-mughnī fī 'l-mawālīd, Escorial (Derenb.) 940 and 978.  
No study has been made of the correspondence with the Latin, and the latter may represent two different works.

## a. Salio

Translator: Canon Salio or Solomon, working at Padua in 1218, 1228, or 1224; see Nal. 1.1vi.

Contents: routine natiuities.

Collation: edit. 1492 and 1493 correspond closely, and ms. Vienna, of which I have seen the last two folios.

Prol.: Dixit Albubather magni Alchasili Alcharsi filius, auctor astronomie perspicuus: PRIMUM QUOD FACERE oportet in natiuitate est ut accipiamus gradum ascendentis et eius minutum necnon ...

Cap. 1: Dixerunt sapientes primi quod fuerunt sani ...

Expl. cap. 206: Quando dominus domus partis inimicorum ... inimici nati cum nato amicabuntur [et venient ad eius pedes] et coram eo humiliabuntur, si Deus uoluerit.

Sign.: Explicit liber Alkissibi de natiuitatibus a magistro Salione a Padua de arabico in latinum translatus 1218 [1244] tertio die exeunte decembri in barrio Iudeorum adiuuante Dauid probo uiro et philosopho iudeo Deo gratias.

Editions: \*\*1492 (Kal. Jun.), Venice (omn. 2), A3<sup>r</sup>-C6<sup>r</sup>

\*\*1493, Venice (omn. 3)

1501, Venice (omn. 4), 2<sup>r</sup>-22<sup>r</sup>

1540, Nuremberg (acc. TK 208, Houz. 3941, Sarton 1.603)

Manuscripts: Munich 125, 15c, 187<sup>r</sup>-220<sup>v</sup>

Munich 2841, 16c, 121-197 (Flores super natiuitatibus = ?)

Paris BN 7336, 15c, no. 13

Venice S. Marco 11/110, 15c, 40-111

\*\*Vienna 3124, 15c, 96<sup>r</sup>-123<sup>v</sup> (beginning not seen)

## 2. De natiuitatum reuolutionibus

Text: apparently wholly different from no. 1 above.

## a. Plato of Tivoli (ca. 1130)

Collation: Ms. Paris, used for quotations below, appears to be complete.

Inc.: Dixit Alkasem filius Achasith: CUM NATIUITATUM REUOLUTIONES per ascendens nati scire uolueris, si secundum consilium azindi de India operatus fueris, adde ...

Expl.: ... mortem incurrit et sic de aliis multis sicut expertuitur.

Sign.: Explicit ... translatus a Platone tiburtino de arabico in latinum.

Manuscript: \*\*Paris BN 7439, 15c, 107<sup>v</sup>-125<sup>r</sup>

## 3. [Terrarum mensurationes]

Contents: A summary of the chapter headings is given in *Bibl. Math.* 1902, 72-73; a work on terrestrial measurements and methods of computation.

## a. Gerard of Cremona

Title: Liber in quo terrarum corporumque continentur mensurationes Abhabuchri qui dicebatur Heus, translatus a magistro Girardo cremonensi in Toletum de arabico in latinum abbreviatus incipit.

Inc.: CUM ALIQUIS TIBI dixerit: est quadratum equilaterum et orthogonium cuiusquodque latus est decem ...

Expl.: ... et hec est eius forma.

Manuscripts: \*Cambridge Univ. Mm II 18, 14c, 69<sup>v</sup>-76<sup>v</sup>

\*Paris BN 7216, 14c, 113<sup>r</sup>-124<sup>r</sup>

Paris BN 7337A, 43<sup>r</sup>-58<sup>r</sup> (dubious)

\*Paris BN 9335, 14c, 116<sup>v</sup>-125<sup>v</sup>

## 24.—'Alī 'Imrānī [Haly Embrani]

Author: 'Alī ibn Aḥmad al-'Imrānī, active in Mosul, died 344/955-956; see Suter 119, Casiri 1.410.

## 1. De electionibus horarum

Arabic: Kitāb ikhtiyārat, see *ZfM* 12, 1867, 23.

Contents: a rich compilation on elections, with frequent quotations from al-Kindī, Ptolemy, aṭ-Ṭabarī, Māshā'allāh, al-Qabī'ṣī and 'Alcait' (al-Khayyāṭ = ?); material on the lunar mansions (1.11, 4.18, etc.).

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Period

a. Abraham bar Hiyya

Translator: worked on this text in collaboration with Plato of Tivoli acc. Millás, *Trad.*, 328.

Collation: Edit. 1942 is defective in that it runs the text into that following in ms. Madrid 10009 and has lost its explicit; ms. Erfurt 8° 83 is complete with the proper explicit of other mss.; I have also used the first and last folios of ms. Erfurt 2° 394 for quotations below, including the signature.

Significance: frequently quoted in Western Europe, presumably on account of its rich documentation from earlier sources.

Title: Incipit liber electionum Haly filii Achamet Ebreny de electionibus horarum [de negotiationibus rerum].

Prol.: ROCASTI ME, KARISSIME, ut tibi librum de horis eligendis componerem secundum rationes astrologorum inuentioni initio operum ...

Cap. 1: OPERA ASTRORUM iudiciorum certa esse a Ptholomeo rege ...

Cap. 2: Omnes astrologi concordati sunt nemini esse eligendum cuius natiuitas ...

Expl.: Dixit Albumasar: Sit Luna et planeta cui iungitur in signo ... ex antiquis temporibus quia hec restauretur non feci mentionem.

Sign.: Perfectus est liber de electionibus horarum laudabilium [+ editione] Haly filii Achamet Embrani, translatus de arabico in latinum in ciuitate Barchinina ab Abraham iudeo qui dicitur Savasorda in tempore existente, et perfecta est eius translatio die Lune 7 [8] die [+ ante] kalendas octobris [+ et 8 die mensis lunaris] qui dictus est ducheida, hora tertia [12<sup>a</sup>] ascendente Aquario, anni Domini 1131 [1134], anno Alexandri 1555, anni arabum 531 [527 + Sole in Libro ... et minuto].

Edition: \*\*1942, by Millás, in *Trad.*, 328 seq., based on ms. Madrid 10009, end lost.

Manuscripts: \*Berlin 964 (2° 54), 15c, 74<sup>r</sup>-87<sup>r</sup>

\*Cambrai 168/163, 14c, 2<sup>r</sup>-21<sup>v</sup> (sign. reworded, dated 1131)

\*Cambridge Trinity 1185, 16c, 132<sup>v</sup>-146

\*\*Erfurt 2° 394, 14c, 79<sup>r</sup>-85<sup>r</sup> (first and last folios seen; expl. [before sign. as above]: ... fuerit bonus locus exitus eorum ad bellum)

\*\*Erfurt 8° 83, 14c, 52<sup>v</sup>-76<sup>r</sup>

\*Florence BN J X 20 (S. Marci 163), 14-15c, 19<sup>r</sup>-36<sup>v</sup>

Florence Laur. S. Marci 194, 14c, 136<sup>r</sup> (3 chapters only)

London BM Sloane 312, 15c, 252-255, 215, 251

\*Madrid BN 10009, 13c, 23<sup>v</sup>-27<sup>v</sup> (end lost, edit. by Millás)

\*Madrid BN 10063, 13c, 27<sup>r</sup>-32<sup>r</sup> (dated 1134)

\*Paris Arsenal 1129, 15c, 160<sup>r</sup>-193

Paris BN 7346 (acc. ZDMG 18.124, and see ZfM 12.24)

Paris BN 7413, 14c, 45

Paris BN 7440 (acc. ZDMG and ZfM, loc. cit.)

Paris BN 16204

\*Vatican Palat. 1369, 15c, 100<sup>r</sup>-111<sup>v</sup>

Venice 11-102 (fa 343), 14c, 96-106

Venice 11-107 (8-74), 15c, 81-107 (TK 471)

b. John of Seville (1142)

Text: not yet examined, attributed in the ms. to Haly Aben Ragel.

Contents: to judge by the first folio of the ms., medical.

Title: Haly Aben Ragel regule utiles de electionibus.

Inc.: UOLENS HORAM sanguinis minuendi eligere ...

Manuscript: \*Vienna 3124, 15c, 13<sup>r</sup>-15<sup>r</sup> (inc. not reported in catalogue)

c. Secundus liber Aly de electionibus particularibus

Text: perhaps a fragment of 24.1.a above; detail not located.

Inc.: QUONIAM PREMISIMUS in precedenti capituli ...

Manuscript: \*Boston Publ. Lib. 1488, 14c, 49<sup>r</sup>-54<sup>r</sup> (no other details noted when I examined this ms.)

25.—Al-Ḥasan [Alhacen, Aboali]

Author: Muḥammad ibn al-Ḥasan ibn al-Haytham al-Baḡrī al-Miṣrī, Abū 'Alī, born ca. 354/965, active in Egypt, died 430/1038; physicist, mathematician, and commentator; see Br. '98, 469-470, '37, 851-854, Sarton 1.721-723, ZfM 1899, 33-47. There is a possible confusion of names with Abu 'l-Ḥasan 'Alī abi 'r-Rijāl.

Works: primarily optical, but important as an adjunct to astronomy and instruments of observation, refraction of light, etc.

1. De aspectibus

Arabic: Kitāb al-manāẓir, or Taḥrīr al-munāẓara (Br. no. 34).

Contents: experimental evidence on mirrors, angles, aberrations, refraction, and the functions of the eye. In seven books.

a. Gerard of Cremona

Collation: of details below only, all parts fully confirmed from catalogues of mss.

Significance: very extensively quoted, notably by Roger Bacon and Robert Grosseteste, in connection with physical and astronomical matters.



Inc.: INUENIMUS [+ quod] UISUM quando inspexerit luces ualde fortes ...

Expl. book 7: ... quarum cause est reflexio.

Sign.: Nunc autem terminemus hunc tractatum, que est finis libri.

Edition: 1572, Basel, in Fredericus Risner's *Opticæ thesaurus libri septem*

Manuscripts: \*Bruges 512, 13c, 1<sup>r</sup>-113<sup>v</sup>

\*Cambridge Trinity 1311, 13c, 1-165<sup>r</sup>

\*Cracow 569, 14c, pp. 247-250 (last parts only)

\*Erfurt 2<sup>o</sup> 392, 13c, 144 fols.

London BM Royal 12 G 7, 14c, 1<sup>r</sup>-102<sup>r</sup>

Saint Omer 605, 14c

Vatican (— ?) 4595

\*Vienna 2438, 14c, 144<sup>r</sup>-147<sup>r</sup> (end lost)

## 2. De crepusculis

Text: Br. no. 36, no mss. listed; see Sarton 1.721. On refraction of light, with diagrams and demonstrations; quoted by Bacon, *Opus maius* (edit. Bridges) 1.229-230.

### a. Gerard of Cremona

Collation: edit. 1542 is apparently complete.

Title: Incipit liber Abhomadym [b-h-m = lack of light] alfeqyr [f-j-r] id est in crepusculo matutino et saffac [shafaq] id est in uespertino crepusculo.

Inc.: OSTENDERE [-am + autem] UOLO in hoc [+ tractatu] quid sit crepusculum et que causa necessario ...

Expl.: ... perueniunt uapores ascendentes ex terra; et illud est quod uolumus.

Sign.: Hic est finis ... comprehendunt insensibilia cum insensibilibus, et quia in eis que dicit nulla est utilitas ideo ea pretermisi.

Editions: 1541, Lisbon, edit. Risner (with Petrus Nonius *De crepusculis*, acc. Houz. 1188)

\*\*1542, Lisbon (with same; reprinted in photo-offset in *Neudrucke von Schriften und Karten über Meteor. und Erdmagn.* vol. 14, Berlin, 1902, pp. 87 seq.) Q4<sup>v</sup>-S4<sup>v</sup>

1572/73, Basel (in F. Risner, *Opticæ thesaurus*, with *De aspectibus*, p. 283

1573, Coimbra (with P. Nonius, *De arte nauigandi*, pp. 57-63, acc. Houz. 1188)

1592, Basel (with P. Nonius, *Opera*, acc. Houz. 1188)

Manuscripts: \*Basel F II 33, 14c, 110<sup>v</sup>-112<sup>r</sup>

Cambridge Univ. li 1 13, 13c, pt. 20

\*Cracow 569, 14c, pp. 99-102

\*Oxford Digby 215, 15c, 96<sup>v</sup>-98

\*Paris BN 10260, 16c, 194<sup>r</sup>-199<sup>r</sup>

\*Vatican 2975, 16c, 202<sup>r</sup>-208<sup>v</sup>

## 3. De speculis comburentibus

Text: also attributed to Archimedes and to Ptolemy; perhaps the Kitâb fi 'l-marâyâ 'l-muḥriqa bi 'l-quṭû' (Br. no. 33, ms. Leyden 1010); diagrams on reflection of light. Greek methods of texts with demonstrations.

Collation: Edit. 1909 appears to be complete and authoritative.

Title: De Sp. com.; De speculo ustorio per sectionem parabole.

Inc.: DE SUBLIMIORI [SUBTILIORI] QUOD geometre adinuenerunt et in quo antiqui etc.] solliciti fuerunt et in quo ... est fabricatio speculorum comburentium per conuersionem radii solaris ... formosa fuerunt sicut Archimedes et Anthemius ...

Expl.: ... eius combustio erit secundum [super] longitudinem quesitam.

Sign.: Sermo ergo iste comprehendit omnem operationem speculorum comburentium que sunt secundum hanc figuram et sunt fortioris combustionis omnibus speculis quia radii conuertuntur ex tota superficie eorum ad punctum unum.

Editions: 1548, Louvain (with Ptolemy, *Quadripartitum*, Archimedes, etc., containing first five propositions only)

\*\*1909-1910, *Bibl. Math.* 10, 218-233 (edit. by Heiberg and Wiedemann) (I count 17 mss.)

## 4. De mundo et celo

Text: Ms. India Office 704 is not this work. The present text, in two different translations, deals with basic astronomical matters.

Translations: Both have been said to have been translated into Latin from Hebrew by Abraham Balmes, but his signature appears only in the title of ms. Oxford, so far as has yet been noted.

### a. Undetermined

Inc.: MUNDUS EST NOMEN positum et dicitur super totum ens ...

Expl.: ... omnium planetarum unum preterquam in Mercurio solo.

Edition: \*\*1942, by Millás, *Trad.*, 285-312 (from ms. Madrid)

Manuscript: \*Madrid BN 10059, 14c, 37<sup>r</sup>-50<sup>r</sup>

### b. Undetermined (Gerard of Cremona?)

Inc.: MUNDUS EST NOMEN impositum dictum de uniuersalitate singularum rerum. Et figura mundi totius est figura sperica ...

Expl.: ... deferentis orbis centrum fiet idem. Intantum ergo de hiis dictum sit nobis.

Manuscript: \*Vatican 4566, 15c, 3<sup>r</sup>-41<sup>v</sup> (acc. ZfM 12.4)

Title: Abulhazen Abnelaitan liber de mundo et celo de motibus planetarum etc., in partes duas distinctus per Abraham Hebreum, iubente Alphonso Hispanie rege ... epistola.

Epistola (cap. 1): Ptolomeus et multi alii sapientes qui fuerunt ante ipsum ...

Inc. (cap. 2): MUNDUS NOMEN PROPRIUM est et quod significatur per ipsum est aliquid rotundum plenum rebus ...

Expl. cap. 18: ... unus motus qui est uerus inferius.

Expl.: ... et hec est figura totius mundi simul coniuncti.

Edition: \*\*1881, by Steinschneider (parts only), in Boncompagni's *Bulletino* 14, 730 seq., preceded by notes, pp. 721-729.

Manuscripts: London BM Arundel 377, 13c, 56-88

\*Oxford Canon. msc. 45, 15c, 56 fols. (used for edit. 1881)

## 26.—Abu 'l-Qāsim Maslama al-Majrīfī [Abulcasim]

Author: Abu 'l-Qāsim Maslama ibn Aḥmad al-Majrīfī al Qurṭubī, active in Cordoba, died between 395/1004 and 398/1007; see Br. '98, 243, '37, 431-432, Sarton 1.668-669, Nal. 1.1vi.

Works: a commentary on Ptolemy's *Planispherium*; *Picatrix* (Buḡrāṭīs for Hippocrates); a work on talismans; revision of the tables of al-Khwarizmi; medical works e.g. ms. Amiens 421.

### 1. De astrolabio

Arabic: ms. Escorial 967 pt. 3 (no detail given). Probably related to our 1.1.3.

#### a. John of Seville and/or Plato of Tivoli

Collation: edit. 1942 and ms. Erfurt 4° 363 are apparently complete and reliable.

Rubr.: Initium operis astrolabii ...

Inc.: CUM UOLUERIS FACERE astrolabium fac tabulam planam ... PRIMUM HORUM armilla per quam suspenditur astrolabium ad capiendam altitudinem ...

Expl.: ... et ex annis arabum si Deus uoluerit.

Sign.: Finitur liber astrolabii auctore Abulcasim de Macharīt qui dictus est Alaiacherica [= al-haya al-k- ?]

Edition: \*\*1942, Madrid (Millás, *Trad.*, pp. 263-284)

Manuscripts: Berlin 2° 62, 14c, 218<sup>r</sup>

Cambridge Univ. Kk I i, 13c, 121<sup>r</sup>-126

Cambridge Univ. Kk IV 2 (Clare 15), 13c, 24-29 (acc. TK 522)

\*\*Erfurt 4° 363, 13-14c, 94<sup>r</sup>-97<sup>v</sup>

\*Erfurt 4° 366, 14c, 82<sup>r</sup>-84<sup>v</sup> (expl.: ... erit recte perfectam)

\*Madrid BN 10053, 112<sup>r</sup>-117<sup>v</sup> (edited by Millás as above)

Modena Bibl. Estense 175 4 87 (Abulcasem = ?)

Modena Bibl. Estense 360 3 331, 17c (Albucasis = ?)

Oxford Cotton p. 104 (by Rudolph of Bruges)

Oxford Merton 259, 13c, 48 (acc. TK 522)

Paris BN 7292, pt. 14 (seems to be a different work)

Parma Bibl. Pal. 3590 (Abulcasem = ?)

Pommersfelden 2640, 12c, 34<sup>r</sup>-51<sup>r</sup>

Toledo 98-27, 48<sup>v</sup> (acc. Millás)

### 2. De usu astrolabii

Text: possibly related to no. 1 above.

Contents: practical rules for determining planetary positions by use of the astrolabe.

#### a. Plato of Tivoli

Collation: Ms. Oxford contains the complete text.

Title: Translatio Platonis tiburtini de opere astrolabii ...; Liber Abualcasin in operibus astrolabii a Platone tiburtino translatus ad amicum suum Iohannem David ...

Prol.: Suo serenissimo amico Iohanni David ...: CUM INTER UNIÜERSA doctorum instrumenta post longam et assiduam ... (complete in *Atti Linnei*, ser. 1, vol. 4, 1850-1851, p. 283) ... natum adiutorem inuoco.

Inc.: QUONIAM INTERPRETATIONES nominum instrumentorum astrolabii fidelissima ...

Cap. 2: Si quis rectitudinis alhidade ueritatem ...

Expl.: ... et hec est figura sicut in dorso astrolapsus iuxta centrum ponitur.

Sign.: Finit ... liber operis astrolapsus ab Abulazin filio Asafar editus, a Platone tiburtino translatus in ciuitate Barchinona.

Manuscripts: \*\*Oxford Digby 51, 13c, 28<sup>r</sup>-35<sup>r</sup>

Paris BN 16652, 24 (TK 131)

\*Vatican Ottob. 309, 136<sup>r</sup>-143<sup>r</sup>

### 3. [Tract]

Contents: description of an astronomical instrument.

#### a. Rudolph of Bruges

Collation: details below from Haskins, p. 56, who gives further quotations from the prologue.

Prol.: CUM CELESTIUM SPERARUM positionem stellarum ...

Inc.: PRIMUM Igitur huius instrumenti est postica ...

Expl.: ... formulam tenaci memorie commendat.

Manuscript: \*Naples C 8 50, 80 (reported by Haskins, p. 56)

# THE ENCYCLOPAEDIC PERIOD

## 27.—Al-Qabî'sî [Alcabitius Abdylaziz]

Author: 'Abd al-'Azîz b. 'Uthmân b. 'Alî, Abu 'ş-Şaqr al-Qabî'sî, al-Miṣrî, active in Mosul, died ca. 356/967; see Br. '37, 399, Sartori, 1.669, Th. 2.263.

### 1. Liber introductorius

Arabic: Al-mudkhal ilâ şinâ'at aḥkâm an-nujûm, mss. Cairo V 395, Breslau Univ. 191, Oxford Bodl. cat. 1.941; cf. Krause p. 462. Dedicated to Sayf ad-Dawlat, died 356/967.

Contents: a complete presentation of astrological practices and materials, with definitions, distinctions, numerous lists of place names by climates and influences, and many long Dorotheus and Mâshâ'allâh.

#### a. John of Seville

Significance: frequently quoted by European astrologers, e.g. by Bonatti, edit. D5<sup>r</sup>. The great number of extant mss. proves long interest in this version.

Collation: I have prepared variorum texts of a number of long passages, primarily of place names, and find close correspondence of text between edit. 1484, 1512, and ms. Boston Publ. Lib. Of these copies, edit. 1512 appears to have been intelligently prepared from a good ms., and variants in the other two copies seem usually to be errors. The place names have been compared in detail with those given by al-Farghânî and 'Alî ibn abi 'r-Rijâl.

Titles: Libellus isagogus Abdilazi in ministerium [ad magisterium] iudiciorum astrorum; Introductorius in quadripartitum Ptolomei; De iudiciis.

144 Pref.: POSTULATA A DOMINO prolixitate uite, Ceyfaddaula (id est gladii regni) et durabilitate sui honoris custodia ...

Differentia prima: NITACH ID EST CINGULUS circuli signorum diuiditur in 12 partes equales ...

Expl.: ... hec sunt uniuersa que ceciderunt ex partibus.

Sign.: Perfectus est Introductorius Abdylaziz ... ad magisterium iudiciorum astrorum cum laude Dei et eius adiutorio [+ interpretatus a Ioh. Hisp.] [+ gumedi secundi 12 anno arabum 530 = ed. 1503].

Appendix: Cum fuerit Luna cum capite uel cauda in uno signo est dies cauenda ...

Expl.: quod futurum est antequam eueniret. Deinde Alkabicius finem ... cum adiutorio Dei cui honor et gloria sit in sec. sec. amen.

#### b. Commentary by John Danko

Text: that of "Postulata ..." arranged by lemmata; references to Aristotle, Alanus ab Insulis, Ptolemy's *Centiloquium*. The edition of 1503 states that the translation was made at Paris in 1331.

Inc.: Incipit glossa facta per ... (acc. TK 344).

Prol.: UIR SAPIENS dominabitur astris], dicit Ptholomeus in sapientibus *Almagesti*, et potest declarari "Ille dominabitur astris" qui effectus prouenientes ex ipsis astris potest impedire ... ad literam accedamus.

Comm.: POSTULATA a domino prolixitate uite etc.] IN PRINCIPIO huius libri septem possunt queri, primo que sit intentio libri ...

Expl.: ... donec exiuerit casum suum. Expliciunt scripta super Alkabicius.

### 2. Introductorius minor

Text: perhaps the *Risâla fî anwâ' al-a'dâd wa ʔarâ'if min al-'amal mimmâ jama'ahû* (ms. Sofia 4832.17), or R. fî 'l-ab'âd wa 'l-ajrâm (Sofia 4832.18); cf. Krause p. 462. An agglomeration of astrological materials in 5 chapters, either separate from "Postulata ..." in the same manuscripts or itself followed by the signature of "Postulata ..."

#### a. John of Seville

Title: Introductorius liber; Isagogicus; De coniunctionibus planetarum in 12 signis.

Rubr.: In nomine Domini miseratoris incipit liber Alcabizi introductorius ad scientiam iudiciorum astrorum in quo sint quinque capitula.

Prol.: ZODIACUS ID EST essentia circuli [Zodiacus circulus] est circulus signorum ...

Inc.: SI IN QUOLIBET anno que res care aut uiles ...

Expl.: ... magisterium astrorum quoniam proferamus eum.

Sign.: (as for "Postulata ...")

Editions: 1473, Bologna (acc. Houz. 3847, perhaps comm. only)  
1481, Venice: Giovanni e Giorgio Forlivio (acc. Houz. 3847)

1482, Venice: E. Ratdolt (Census 616, with Zodiacus ...)

\*\*1484/5, Venice (omn. 1), A1<sup>r</sup> seq. (Zodiacus ...; C7<sup>r</sup>-I8<sup>v</sup> Uir ...)

1491, Venice: Gregorijs (Census 618; Zodiacus ...)  
s.d., Lugduni (Batavorum?): Guilhelmus Huyon (acc. Houz. 3847)

1502, Venice, 140 pp. (acc. Houz. 3847)

1503 (Aug. 10), Venice; Ratdolt, see 1511/12 below

1508, Frankfort

\*\*1511/12 (Jan. 21), Venice: Sessa (bound with 1503 above),  
A1<sup>r</sup>-C1<sup>r</sup>; Zodiacus ... C7<sup>r</sup>-I8<sup>v</sup> (reprint of omn. 1?)

1521, Venice, 22<sup>vv</sup> (acc. TK 670; Zodiacus ...; Uir ...)

1521, Paris (Zodiacus ...; Uir ...)

[1525], Lugduni Batavorum (acc. Houz. 3847)

1556/7, Paris, French translation of parts 4-5 by Oronce  
Finé (Zodiacus ...)

1560 (?), Cologne

1585, Rome (acc. Houz. 3847)

Manuscripts (titles alone do not indicate presence or absence  
of commentary or of the two texts; copies marked [\*] open  
with 'Postulata ...'; Zinner 10380-88 apparently correctly  
listed as of Danko's commentary, but some at least also  
contain no. 1):

Admont 2° 481, 14c, 33<sup>r</sup>-48<sup>r</sup>

Admont Stiftsbib. 550, 15c, 20<sup>r</sup>-54<sup>r</sup>

Bamberg Staat. Clas. 84 M II 7, 14c, 272<sup>r</sup>-298<sup>v</sup> (293<sup>vv</sup> =  
comm. acc. Zinner)

Basel F III 8, 14c, 20<sup>v</sup>-40<sup>v</sup>

Basel O III 4, 15c, no. 10

\*Berlin 956 (2° 307), 12c, 29, 35-40 (= 109, 110-116)

Berlin 2° 192, 15c, 76<sup>v</sup>, 103<sup>v</sup>-104<sup>r</sup>

Berlin 8° 44, 14c, 10<sup>r</sup>

Bern Stadt. 483, 15c, 154<sup>r</sup>-188<sup>r</sup>

\*\*Boston Publ. Lib. 1488, 14c, 33<sup>r</sup>-48<sup>r</sup> (with commentary)

Breslau Diöz. 2° 105, 15c, 203<sup>r</sup>-221<sup>v</sup>

Breslau Stadt. R 173, 14c, pt. 1

Breslau Un. Ac. IV F 18, 15c, 32<sup>r</sup>-60<sup>r</sup>

Breslau Un. Ac. IV F 23, 15c, 145<sup>r</sup>-181<sup>r</sup>

\*Bruges 523, 14c, 1<sup>r</sup>-15<sup>v</sup>

\*Cambrai 1330/1180, 14c (Zodiacus ...)

\*Cambridge Emmanuel 70, 15c, 24-58<sup>v</sup> (with comm.)

\*Cambridge Trinity 1185, 16c, 80<sup>v</sup>-98

Cambridge Trinity 1307, 14c, 1-28 (in English)

\*Chartres 213/169, 12c, 14-38 (Zodiacus ...)

Cracow 545, 15c, 327<sup>r</sup>-410<sup>r</sup>

Cracow 578, 14-15c, 231-288

Cracow 601, 15c

Cracow 609, 15c, 359<sup>r</sup>-398<sup>r</sup> (comm. acc. Zi)

Cracow 805, 15c

Cracow 1857, 15-16c

Cracow 1915, 15c, 39<sup>r</sup>

Cracow 1918, 15c, 229<sup>r</sup>-364<sup>r</sup>

Cues 208, 14c, 137<sup>v</sup>-149<sup>v</sup>

Cues 212, 15c, 328<sup>r</sup>-329<sup>v</sup>, 387<sup>r</sup>-391<sup>r</sup>

\*Dijon 449, 15c, 63<sup>r</sup>-97 (in French; with comm.)

Düsseldorf F 13 4°, 16c (comm. acc. Zi)

Edinburgh Crawford, 15c

\*Erfurt 2° 383, 14c, 57<sup>r</sup>-76<sup>r</sup> (with comm.; Zodiacus ...)

\*Erfurt 2° 387, 14c, 46 fols (with comm.)

\*\*Erfurt 2° 394, 14c, 155<sup>r</sup>-167<sup>v</sup> (with comm.: Uir)

\*Erfurt 2° 395, 14c, 60<sup>r</sup>-74<sup>v</sup>

\*Erfurt 4° 330, 13c, 85<sup>r</sup>-106<sup>r</sup> (Zodiacus ...)

Erfurt 4° 343, 14c, 185<sup>vv</sup> (fragment)

\*Erfurt 4° 348, 14c, 54<sup>r</sup>-87<sup>v</sup>

\*\*Erfurt 4° 354, 14c, 4<sup>r</sup>-59<sup>r</sup> (with comm.: Uir ...)

\*Erfurt 4° 374, 14c, 136<sup>r</sup>-159<sup>r</sup> (Zodiacus ...)

\*Erfurt 4° 379, 14c, 1<sup>r</sup>-19<sup>r</sup> (Zodiacus ...; 42<sup>r</sup>-54<sup>r</sup> = another  
comm.?)

\*Erfurt 8° 80, 14c, 17<sup>r</sup>-30 (Zodiacus ...)

Florence Laur. Ashb. 206 (132/138), 14c, 88<sup>v</sup>-125<sup>v</sup> (with  
comm.)

Gotha Bi. L VII Mem. min., 15c

Heidelberg P g 511, 15c, 1<sup>r</sup>-69<sup>v</sup>

Leipzig Univ. 1463, 15c, 40<sup>r</sup>-64<sup>v</sup>

Leipzig Univ. 1468, 14c

Leipzig Univ. 1471, 15c, 7<sup>v</sup>-21<sup>r</sup>

Leipzig Univ. 1484, 15c, 193<sup>r</sup>-217<sup>r</sup>

\*London BM Arundel 268, 13-14c, 7<sup>v</sup>-23<sup>r</sup>

\*Madrid BN 10009, 13c, 55<sup>v</sup>-70<sup>r</sup> (sign.)

\*Madrid BN 10012, 13c, 3<sup>r</sup>-44<sup>v</sup> (sign.)

\*Madrid BN 10063, 13c, 1<sup>r</sup>-10<sup>v</sup> (sign.)

Madrid Esc. e III 15, 14c

Maihingen III 2 2° I, 75<sup>r</sup>-115<sup>r</sup>

Missouri, C. D. Humbert 6, 15c, 39-84

Montreal Osler 7513, 15c, 1<sup>r</sup>-(-15)

Munich 83, 15c, 95<sup>v</sup>-100 (-111<sup>v</sup>?)

Munich 125, 15c, 187-200, 293<sup>vv</sup>.

- Munich 228, 14c, 3<sup>r</sup>-26<sup>r</sup>  
 Munich 488, 14c, 20<sup>r</sup>-34<sup>r</sup> (several comm. acc. Zi)  
 Munich 2841, 16c, 53-127, 121-197  
 Munich 8950, 15c, 156<sup>r</sup>-175<sup>r</sup>  
 Munich 10661, 15c, 37<sup>r</sup>-50<sup>r</sup>  
 Munich 14111, 15c, 171<sup>r</sup> seq.  
 Munich 24865, 15c, 30<sup>v</sup>-32<sup>v</sup>  
 Munich 27001, 15c, 90<sup>r</sup>-120<sup>r</sup>  
 Oxford Ashmole 357, pt. 5  
 \*Oxford Digby 47, 14c, 29<sup>v</sup>-57 (Zodiacus ...)  
 \*Oxford Digby 48, 15c, 208<sup>r</sup>-237 (Zodiacus ..., Uir ... 243-301<sup>v</sup>)  
 \*Oxford Digby 93, 14c, 55<sup>r</sup>-88, comm. 94<sup>r</sup>-172  
 Oxford Digby 97, 15c, 165-240 (comm. only?)  
 \*Oxford Digby 149, 13c, 177<sup>r</sup>-189 (end lost)  
 Oxford St Johns 164 (French translation by Pelerin de Pousse, 1362)  
 \*Paris BN 7321, 15c, 1<sup>r</sup>-79<sup>r</sup> (Zodiacus ...)  
 Paris BN 7324, 15c, pt. 5 (comm. acc. Zi)  
 \*Paris BN 7329, 14c, 84<sup>v</sup>-87<sup>r</sup> (end lost)  
 Paris BN 7336, 15c, pt. 13  
 \*Paris BN 7437, 15c, 11<sup>r</sup>-79<sup>r</sup> (Zodiacus ...)  
 \*Paris BN nou. acq. 398, 15c, 20<sup>r</sup>-34<sup>r</sup> (with comm.)  
 Pommersfelden 60, 12c, pt. 3  
 Pommersfelden 66, 12c, 1<sup>r</sup>-24<sup>r</sup>  
 Prag 629, 15c, 45<sup>r</sup>-59<sup>v</sup>  
 \*Prag 1442, 13-14c, 150<sup>r</sup>-165<sup>v</sup> (with sign.)  
 Prag 1451, 16c (German translation, with comm.)  
 Prag 1609, 15c, 75<sup>r</sup>-110<sup>r</sup>  
 Prag 1826, 14c, 41<sup>r</sup>-62<sup>r</sup>  
 St. Florian XI 619, 15c, 152<sup>r</sup>-168<sup>v</sup>  
 Salzburg St. Peter b XI, 15c  
 Soest Vorw. 24, 13c, pt. 8  
 \*Stalingrad Acad. Scien. AB-III, 13-14c, 37<sup>r</sup>-47<sup>r</sup> (with sign.)  
 Stuttgart Offent. mat. 4° 34, 15c, 22<sup>r</sup>-51<sup>r</sup>  
 \*Toledo Cathedral 98  
 Ulm 13885, 14c, 1<sup>r</sup>-58<sup>v</sup> (comm. acc. Zi)  
 Vatican Palat. 446, 15c, 138<sup>r</sup> (comm. acc. Zi)  
 Venice S. Marco XI, 104, 14c, 79-102  
 Venice S. Marco XI, 110, 15c, 40-111  
 \*Vienna 5251, 15c, 1<sup>r</sup>-216<sup>r</sup>  
 \*Vienna 5275, 16c, 221<sup>r</sup>-254<sup>r</sup>  
 \*Vienna 5318, 15c, 107<sup>r</sup>-128<sup>r</sup> (in German)  
 \*\*Vienna 5417, 14c, 1<sup>v</sup>-27<sup>r</sup> (Zodiacus ...), 28<sup>r</sup>-55<sup>v</sup> (comm.)  
 \*Washington Lib. Cong. 123, 15c, 33<sup>r</sup>-67<sup>r</sup> (or 44-49?) (seen briefly)

Washington Lib. Cong. 1456

Washington Folger Shak. 1815.3, 16c, 271<sup>r</sup>-283<sup>r</sup> (end lost; perhaps copy of edition of 1482)

Wolfenbüttel 2725, 14c, 51<sup>r</sup>-82<sup>r</sup>

Wolfenbüttel 2814, 15c, 77<sup>r</sup>-87<sup>r</sup>

Wolfenbüttel 2816, 15c, 12<sup>v</sup>-76<sup>r</sup>

Wolfenbüttel 4582, 16c (comm. acc. Zi)

Zwickau XXII VIII 10, 15c, 46<sup>r</sup>-47<sup>v</sup>

### 3. Tractatus de conjunctionibus planetarum in 12 signis

#### a. John of Seville

Text: apparently a commentary, perhaps related to 2b above; the prologue is a lemma from Ptolemy's *Centiloquium*.

Pro.: SCIENTIA NAMQUE stellarum ex te et ex illis] Est hanc propositionem ...

Comm. POSTULATA etc.] Iste liber cuius subiectum ...

Expl.: ... quod futurum est antequam eueniret.

Sign.: Deinde Alkabicius ... cum adiutorio Dei.

Editions: 1485, 1511, 1521, with John of Seville's *Introductorius* (acc. Sarton 1.669; not necessarily the above text)

Manuscript: \*Erfurt 2° 383, 14c, 80<sup>r</sup>-113<sup>v</sup>

#### b. Commentarius isagoge

Contents: the incipit apparently refers to Ptolemy's *Centiloquium*.

Acc. to Th., this is an excerpt from a lecture on al-Q.

Inc.: PTOLOMEUS IN PRIMA propositione ...

Manuscript: Vatican Palat. 1354, 14c, 126<sup>v</sup>-160<sup>r</sup> (TK 535)

### 4. Expositiones

Text: perhaps another commentary on the above.

Inc.: IN PRIMO CAPITULO ponit prohemium ...

Expl.: ... difficilior est ad soluendum.

Manuscript: \*Erfurt 4° 379, 14c, 42<sup>r</sup>-54<sup>r</sup>

### 5. Collecta in astronomia precipue Alkabitii

Inc.: EST ITAQUE ASTRONOMIA astrorum lexque ...

Manuscript: Munich 2841, 37<sup>r</sup> (TK 241)

### 6. De medicina simplici

Manuscript: Vienna 5504, 15c, 278<sup>r</sup>-290<sup>v</sup> (title only)

### 7. Isagoge

Inc.: QUAMQUAM APUD OMNES rationales ...

Manuscript: Lucca 2114, 15c, 59 fols. (TK 541)

## 8. Excerpts

Inc.: AUCTOR DOCET eligere ilegh ...

Manuscript: Florence Laur. Plut. 29 cod. 3, 15c, 123<sup>v</sup>-131 (TK 70),

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'Alī ibn abi  
'r-Rijāl

28.—'Alī ibn abi 'r-Rijāl [Haly Abenragel]

Author: 'Alī ibn abi 'r-Rijāl ash-Shaybānī ibn al-Haytham, Abu 'l-Ḥasan, active in Cordoba or Tunis, died after 432/1040; see Br. '37, 401, Th. 2.182, 3, 308, Sarton 1.715-716.

### 1. De iudiciis

Arabic: Kitāb al-bari' fi al-ḥikām an-nujūm, mss. Paris BN 2590 (end lost after 352<sup>v</sup>), Escorial 911, 918 (Derenb. 923, end lost), London India Office 735/637 (end lost).

Contents: a complete method of astrology, with extensive quotations from earlier writings such as Vettius Valens and a number of as yet unidentified authorities, e.g. "Liber Jacob filii Caryb."

Significance: primarily for the many sources, see V. Stegemann, "Astrologische Zarathustra-Fragmente ..." *Orientalia* 6, Rome, 1937, 317-336, and by the same, on the quotations from Dorotheus Sidonius (q.v.) in *Abh. Gesch. Ast.*, Heidelberg, 1935. The presentation of the lunar mansions (7.101, edit. 1551, pp. 342 seq., edit. 1503, fol. 80<sup>v</sup>-81<sup>v</sup>) is very important, as is also the last part of the work, several chapters containing lists of place names (8.35-37), first the list that appears in al-Farghānī, here attributed to Harix (i.e. Ḥabash al-Marwazī, fl. ca. 220/835, on whom see Br. '37, 393), then the longer list identified by longitudes and latitudes (chap. 37, lost in mss. Paris Arab. 2590 and Escorial 923).

#### a. Aegidius de Tebaldis (1256)

Collation: Edit. 1551 was 'improved' impressionistically, thus falsifying many details; edit. 1503 is better for the text, both are complete. These differences are confirmed by mss. Paris BN fr. 613 and 1352, both excellent for this French translation. All technical information regarding the lunar mansions and the place names has been compared in detail with al-Farghānī, Leopold, and John of Seville's *De iudiciis astrologis* (edit. 1548, fol. S3).

Translators: Aegidius, aided by Petrus de Regio, using a Spanish translation made by Yehūdā ben Mōshē.

Significance: widely used in Europe, and the primary source, no doubt, of most quotations attributed merely to 'Haly.' I

have identified quotations in John of Ashenden (edit. 1489, fols. 45<sup>r</sup>, 67<sup>r</sup>), and I note under the main work by John of Seville his dependence on this text.

Title: De iudiciis astrorum seu liber completus; Liber de fatis astrorum.

Translators' preface: HIC EST LIBER MAGNUS et completus quem Haly Abenragel ... (for further detail see cat. for Erfurt 2° 390).

Invoc.: Dixit Haly filius Abenragel: GRATIAS UNI DEO uictoriosi honorato potenti ...

Prol.: ISTE EST LIBER in quo multos sensus adiunxi ... et annorum mundi.

Cap. 1: De signis: DUODECIM SIGNA SUNT in celo similia membris corporis ...

Expl.: ... multas aquas et quod futurum est melius nouit Deus.

Editions: \*1485, Venice: E. Ratdolt, 152 fols.

s.d., Basel (acc. Houz. 3870)

\*\*1503, Venice: J. B. Sessa, 98 fols.

1520, Venice: Giunti (acc. Houz. 3870)

1523, Venice, 84 fols.

1525, s.l. (acc. Houz. 3870)

\*\*1551, Basel: A. Stupa, 410 pp. (emended text)

\*1571, Basel: Liechtenstein (with *Liber nouem iudicum*)

Manuscripts: \*Berlin 964 (2° 54), 15c, 2<sup>r</sup>-69<sup>r</sup> (books 4-6 omitted)

Boston Publ. Lib. 1488, 14c, 49<sup>r</sup>-54<sup>r</sup> (book 2?)

\*Cambrai 923/822, 15c, 1-95

Chicago Ricketts 211, 14c, 1 fol. (fragment)

\*Erfurt 2° 390, 14c (fragment)

\*Erfurt 2° 395, 14c, 150<sup>r</sup>-185<sup>r</sup> (expl.: ... regni solem et medium celi)

\*Erfurt 4° 353, 14c, 1-77, 78-169 (books 7-8: Invoc.: Dixit Haly Ab filius: Laudatus sit Deus et regratiatus ...; expl.: ... tunc erit res illa et sic est finis ... cum altera forma)

Erfurt 8° 83, 14c, 1-52 (excerpts on nativities)

\*Erfurt 12° 18, 14c, 62<sup>r</sup>-170<sup>r</sup> (complete prologues; expl.: certificaberis cum Deo)

\*Escorial J II 7, 15c, 1-163

\*London BM Royal 12 F 17, 14c, 150-185

Munich 59, 15c, 244-277 (book 8)

Munich 125, 15c, 24-172 (copy of edit. 1485)

\*Munich 228, 14c, 99-220 (-263?)

New York Jewish Semin. 12, 16c, 38-56 (English translation)

Paris Arsenal n. acq. 10020, 15c (French translation)

Paris BN n. acq. lat. 398, 15c

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- \*\*Paris BN fr. 613, 14c, 64<sup>r</sup>-86<sup>r</sup> (last book lost)  
 \*Paris BN fr. 1352, 14c, 3<sup>r</sup> seq. (Inc.: Ci commence le grant livre ..., through book 7)  
 \*Prag 1269, 15c, 1-300 (complete)  
 \*Prag 1312, 14c, 1<sup>r</sup>-19<sup>v</sup> (first 22 fols. lost)  
 Vatican 4082, 161-192  
 Vatican Palat. 1370, 15c, 65-76  
 Vienna 5395, 15c, 28 fols. (excerpts)  
 \*Vienna 5442, 15c, 1<sup>r</sup>-120<sup>v</sup> (books 4-6, see Saxl 2.155)

## b. Aluarus

- Translation: apparently based on the same Spanish intermediary as 28.1a above.  
 Title: Hic est magnus liber et completus quem Haly ... quem Iuda filius Mosse precepto Domini Alfonsi ... et Aluarus dicti ... regis factura ... transtulit de ydiomate materno in latinum.  
 Pref. of translator: QUANDO LUMEN STELLE in domo decima ... ex yspania lingua in latinum transtuli.  
 Pref. of Yehūdā: Laudes et gratias ...  
 Inc.: Dixit Aly filius Abenragel Caroani notarii: Gratias Deo uniuictori [uno victori] et honoratori ...  
 Expl. (cap. 4): ... inter bestinglos comedentes eum.  
 Manuscript: \*Madrid Escorial J III 17, 15c  
 \*Vatican Pal. 1370, 15c, 65<sup>r</sup>-77<sup>r</sup>

## c. Revision by John of Ashenden

- Title: Incipit liber supra iudicialis de acc. mundi compositus in Anglia a Iohanne de Esschinden.  
 Inc.: INTENTIO MEA in hoc libro est compilare sententias ...  
 Expl.: ... gratias quantas sufficio referens Deo patri cui sit honor et gloria per infinita.  
 Sign.: Completa est hec compilatio ... 18 ... dec. anno Christi 1348 ...  
 Manuscripts: \*Erfurt 2° 207<sup>a</sup>, 14c, 254 fols.  
 \*Erfurt 2° 379, 14c, 99<sup>v</sup>-159<sup>r</sup>

## Dubia

Texts: Most of the following short tracts are probably fragments of *De iudiciis* or erroneous attributions. Ms. Vienna 3124 contains an important series of fragments of which I have seen several, as noted below.

## 2. De cometarum significationibus

- Inc.: QUANDO COMETA APPARUIT in Ariete ...  
 Edition: 1536, Nuremberg: Frylschius, *De meteoris* (acc. TK 545)

## 3. De proprietatibus horarum, de significationibus planetarum et domorum celestium

- Text: bk. 7 cap. 100, p. 341 (edit. 1503 fol. 80<sup>v</sup>).  
 Inc.: De hora Solis. HORA SOLIS INFORTUNATA est ...  
 Expl.: ... idem intelligendum est de omnibus aliis.  
 Manuscript: \*Vienna 3124, 15c, 180<sup>r</sup>-192<sup>v</sup>

## 4. Regulae utiles de electionibus translatae per Johannem hispalensem

- Manuscript: Vienna 3124, 15c, 13<sup>r</sup>-15<sup>v</sup>

## 5. Horoscopus medicorum

- Title: H- m- secundum dicta Haly Habenragel institutus et figuris illustratus.  
 Inc.: IN MINUENDO SANGUINEM ...  
 Expl.: ... eger breuiter morietur.  
 Manuscript: \*Erfurt 2° 236, 14c, 199<sup>v</sup>-200<sup>r</sup>

## 6. Excerpta ex Aali Abenragel libro de matiuitatibus scripto deprompta

- Rubr.: Extractions de libro H. Abenragel et primo de nat.  
 Inc.: Ego Haly dico in hoc capitulo et aliis capitulis huius libri res non expositas ...  
 Expl.: ... offendet natum eorum inimicitia.  
 Manuscript: \*Erfurt 8° 83, 14c, 1<sup>r</sup>-52<sup>r</sup>

## 7. Liber de reuolutionibus annorum excerpta

- Manuscript: Vienna 3124, 15c, 158<sup>r</sup>

## 8. Operis astrologici locus

- Manuscript: Vienna 3124, 15c, 175<sup>r</sup>

## 9. Operis astrologici capitulum

- Contents: nativities according to each planet in various houses.  
 Title: O- a- c- "Utrum infans complebit annos nutritionis," et hoc secundum Haly Habenragel. Sunt quatuor partes.  
 Inc.: ET EGO DICO QUONIAM nascitur duo nati ex una pignatione et uno corpore, aspice mat' (?) a Luna. Et primo nato ...  
 Manuscript: \*\*Vienna 3124, 15c, 68<sup>r</sup> seq. (end not seen)

## 10. Astrologiae iudiciariae partes IV, V, et VI

- Manuscript: Vienna 2429, 14c, 92 fol.

## 11. De natiuitatibus Hali Abenragel

- Inc.: QUANDO PARS LEGER fuerit in Capricorno ...

Expl.: ... natus erit perfidiosus.

Manuscript: \*Erfurt 12° 18, 14c, 171<sup>r</sup>-172<sup>r</sup>

12. De iudiciis natiuitatum secundum  
Ptolomeum et Haly Abenragel

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Al-Bîrûnî

Text: in four parts; might be related to Ptolemy's Quadripartitum.  
Inc.: IN PROLOGO THEORICE Ptholomei que dicitur Almagesti  
scribitur ...

Expl.: ... digna in hoc opusculo registraui principem celi  
gratiando.

Manuscript: \*Oxford Digby 97, 15c, 94-103

Oxford Digby 114, 13-14c, 199<sup>v</sup> (book 8?)

29.—Al-Bîrûnî

Author: Muḥammad ibn Aḥmad Abū Rayḥan al-Bîrûnî, born in 973,  
died 440/1048-1049, lived for years in India and translated  
from Sanskrit; see Sarton 1.707-709. There is evidence that  
al-Bîrûnî was translated into Latin since he was quoted by  
Hermannus Contractus, see catalogue Berlin ms. 963, fol.  
130<sup>v</sup>.

1. Rinuby astronomus

Attribution: title as page heading in later hand; associated with  
al-Bîrûnî by the Digby catalogue.

Contents: a series of short definitions of technical terms used  
in astronomy, of schoolbook nature, often very like al-Farghânî  
even to series of consecutive items, unlike the *Theoricae  
planetarum* in giving no applications or diagrams.

Authenticity: The terms and style are too stable for this to be a  
translation, and the definitions too systematic. One passage  
reading "cuius centrum uocatur apud Alfraganum cuspis  
terre" uses John of Spain's term 'cuspis' but only this once.  
However, this text may well be a vital link in the transmis-  
sion of this material and, like book II of Leopold of Austria  
(no. 38), may derive from an older form of the source of the  
*Theorica planetarum Gerardi* (no. 36).

Prol.: ASTRORUM DIUERSI motus indigent expositione nominum  
uariorum respectu punctorum harum arcuum circularum orbium  
motuum ...

Inc.: CENTRUM MUNDI est punctus in uniuerso uisuum (?) in  
medio terre situs a quo omnes linee ...

Expl.: Saturnus Iupiter et Mars in suis motibus ... instrumenta.  
Quantitas motus planete in duo (?) secundum medium motum  
et uniformem.

Manuscript: \*\*Oxford Digby 93, 15c, 27<sup>v</sup>-33<sup>v</sup>

2. Commentary on al-Farghânî

Text: see Haskins, 73, who gives the complete prologue.

a. Hugh of Santalla

Title: Incipit tractatus Alfragani de motibus planetarum com-  
mentatus, ab Hugoni Sanctaliensis [add translatus]; Hamis  
Benhamie Machumeti ... de geometria.

Prol.: QUIA NONNULLOS nec immerito te conturbat quod  
priscorum astrologorum intentio ...

Inc.: AD INGRESSUM cuiuslibet arabici mensis ut ait Al-  
hoarizmi ...

Manuscripts: Cambridge Caius 456, 13c

Oxford Savile 75, 15c, 205<sup>r</sup> seq.

Oxford Selden Arch. B. 34, 12c, 11<sup>r</sup>-62<sup>v</sup>

30.—'Alî b. Riḍwân [Haly Abenrudian]

Author: 'Alî b. Riḍwân b. 'Alî b. Ja'far, Abu 'l-Ḥasan, died in  
460/1068 (acc. Derenbourg), best known for his commentaries  
on Ptolemy (see Pt. 3, 10) and on Galen.

Works: as here listed, short and for the most part dubious, or  
possibly extracts from his commentaries.

1. Tractatus Haly Abenrudiani de constellationibus

Text: see Steinschneider '06, p. 3.

Inc.: GRECI UIRTUTES extremos circa quos ...

Expl.: ... id est in cela sunt due et sic completur liber imaginum;  
48.

Manuscript: \*\*Erfurt 2° 394, 14c, 90<sup>r</sup>-91<sup>v</sup>

2. Significatio planetarum in signis Haly

Contents: planets in the signs, celestial images (human, etc.)  
by faces.

Inc.: SOL IN OMNIBUS partibus Arietis altos fecit uiles ...

Expl.: ... corpore completus et membrum limpidus (?) honoratus  
et galardus.

Manuscript: \*\*Erfurt 4° 223, 14c, 267<sup>v</sup>-270<sup>v</sup>

3. Notabilia secundum Haly in astrologia

Inc.: UITAT YLECH sed almu figurat ...

Expl.: ... bullam in cera dederis tamen facies per sigillum.

Manuscript: \*Erfurt 4° 368, 14c, 105<sup>r</sup>-109<sup>r</sup>

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#### 4. De litibus et preliis Haly

Inc.: LITES DESCENDUNT a regnis regum ...

Expl.: ... Uenus aspexerit de tertio uel sextili.

Sign.: Et sic est finis huius capituli quod est 42 2° partis libri sui.

Manuscript: \*Erfurt 4° 372, 14c, 230<sup>v</sup>-236<sup>r</sup>

#### 5. Libellus Haly de proprietatibus Lune

Inc.: LUNA SI FUERIT in prima domo significat ...

Expl.: ... elementis quatuor sicut probat Aristoteles in quinto libro metheororum.

Sign.: Explicit liber Hali de collectione proprietatis Lune.

Manuscripts: \*Erfurt 2° 386, 14c, 52<sup>v</sup>

Vatican Reg. 1330, 15c, 59<sup>r</sup>-60<sup>v</sup> (acc. Thorndike).

#### 6. Libellus de proprietate Lune et tempore secundum planetam quemlibet

Manuscript: Florence Laur. (acc. Houz. 3904)

London BM Cotton (acc. Houz. 3904)

#### 7. De reuolutionibus natiuitatum

Title: De reuolutionibus natiuitatum, de fridariis seu temporaria potestate planetarum.

Edition: 1524, Venice: L. Gauricus (with at-Ṭabarī, acc. Houz. 3871)

#### 8. Tractatus de cometarum significationibus per xii signa zodiaci

Edition: 1563, Nuremberg (with M. Frytschius, *Catalogus prodigiorum*, acc. Houz. 3874)

#### 9. De electionibus

Manuscript: Vienna, translation of John of Seville (acc. Houz. 3875)

#### 10. De reuolutionibus annorum

Manuscript: Oxford (acc. Houz. 3900)

#### 11. Exempla trium natiuitatum

Manuscript: Paris BN (acc. Houz. 3902)

#### 12. Liber de tempore secundum planetam quemlibet in quolibet signo

Manuscript: London BM Cotton (acc. Houz. 3903).

#### 31.—Az-Zarqālī [Arzerchel]

Author: Ibrāhīm b. Yaḥyā an-Naqqāsh az-Zarqālī al-Qurṭubī, Abū Ishāq, active in Cordoba sometime between 1029 and 1087, died 493/1100; see Br. '98, 472-473, '37, 862, Sarton 1.758-759.

Works: rules and planetary tables; described by Millás in his *Estudios sobre Azarquiel*, Madrid, Escuelas de estudios árabes, 1943-1950.

##### 1. Canones

Arabic: Kitāb al-'amal bi 's-ṣafiha az-zījīya, or Qanūn, composed before 1095, mss. Munich 853, Leipzig 800, Escorial (Derenb.) 962, Leyden 1070, etc. Casiri 1.393 gives table of contents; see Kennedy no. 24, Krause p. 482.

Contents: astronomical tables preceded by instructions for their use; date era computations; includes instructions and tables for the trepidation of the equinoxes. For the complete table of contents see Millás, *Estudios*, pp. 37-42, and his *Trad.*, pp. 166 seq. See also *Osiris* 1.748, and *Archeion* 14, 1932, 392-412.

Latin translations and versions: To date, these have not been adequately identified. Conclusive identification would require a complex presentation including complete comparative tables of contents and numerous samplings of the text and of the numerical tables. As here given, for a few mss., identification is based on complete collation and comparison of those chapters quoted under "Principal version" (below) taken from all mss. labeled [\*\*], which are all complete and sufficiently correct for these parts. Note that the same incipit is found in several quite different versions and translations.

Significance: Az-Zarqālī's *Canones* are the basis of essentially all later European astronomical tables and rules for their use, e.g. the Alphonsine versions. In Arabic literature, az-Zarqālī is credited with discovery of the trepidation of the equinoxes, fully exposed in rules and tables as noted below (see my edition of al-Bīṭrūjī, pp. 28-29, and cf. Thābit's *De motu octaue spere*).

##### Basic version

Text: here known only through the incipit (e.g. Zinner 10943-10967).

Title: *Canones siue regule super tabulas astronomie; Canones in tabulas tholetanas.*

Prol.: QUONIAM CUIUSQUE ACTIONIS quantitatem temporis metitur spatium celestium motuum doctrinam querentibus eius primum ratio occurrit inuestiganda ...

Edition: 1534, Nuremberg, edit. by J. Schöner (acc. Houz. 3101)

Manuscripts: Admont Stiftsb. 2° 318, 14c, 62<sup>r</sup>-109<sup>v</sup>

Barnard (Missouri), C. D. Humbert 6, 15c, 69<sup>r</sup>-82<sup>r</sup>

Basel O II 7, 13c, 77-165<sup>v</sup>

Bern 196 pt. 1 (?)

Cambrai 932/831, 13c, 1<sup>r</sup>-28

Cambridge Univ. Ee III 61, 15c, 14-15

Darmstadt Landesb. 765, 13c, 189<sup>r</sup>-203<sup>v</sup>, 212-214

Edinburgh Observatory (?)

Erfurt 4° 352, 14c, 72<sup>r</sup>-92<sup>r</sup> (excerpts 115<sup>r</sup>-117<sup>r</sup>)

Erfurt 4° 369, 14c, 16<sup>r</sup>-28<sup>r</sup>, 193<sup>v</sup>-218<sup>v</sup>

Erlangen Univ. 406, 13-14c, 1<sup>r</sup><sup>v</sup> (fragment of tables)

Escorial O II u 10, 14c (acc. Millás)

Florence S. Marci 185, 13c, 2<sup>r</sup>-85<sup>v</sup>

Florence S. Marci 189, 13-14c, 3<sup>r</sup>-120 (B. Naz. J V 8)

Florence S. Marci 191, 14c, 1-74

Florence S. Marci 194, 14c, 17<sup>r</sup>-60<sup>r</sup>

Florence S. Marci 200, 13c, 169<sup>r</sup>-184<sup>v</sup>

Groningen Univ. 102, 14c, 1<sup>r</sup>-36<sup>v</sup> (-73), 134-139

Leyden BPL 191E, 14c, 141-156<sup>v</sup>

Leyden Scal. 64, 14c, 1<sup>r</sup>-132<sup>v</sup>

London Astron. Soc.

Madrid BN 9257

Madrid BN 9271, 14c (acc. Millás)

Munich 83, 14c, 137<sup>r</sup>-150<sup>v</sup>

Munich 10662, 15c, 146<sup>r</sup>-147<sup>r</sup> (star index)

Munich 18927, 13c, 1<sup>v</sup>-29<sup>v</sup>

Münster Univ. 4° 530, 14c, 50<sup>r</sup>-141<sup>v</sup> (or -68<sup>v</sup>)

Oxford Canon. misc. 51

Oxford Canon. misc. 556, 14c, 99 fols.

Oxford Digby 193, 14c, 10-13 (end lost)

Oxford Laud. misc. 644, 14c, 16<sup>r</sup>-101<sup>v</sup>

Oxford Laud. misc. 1487 (K 61)

Oxford Magdalen 6

Pommersfelden 66, 12-13c, 24<sup>r</sup>-33<sup>r</sup>, 52<sup>r</sup>-84<sup>r</sup>

Prag 2346, 13-14c, 1<sup>r</sup>-39<sup>v</sup>

Prag 2431, 14c, 1-45, 53-79

Rostock Univ. 4° 1, 15c, 58<sup>r</sup>-75<sup>v</sup>

Saint Gall Stiftsb. 848, 14c, 204

Vatican Barb. 3453

Vatican Ottob. 1826, 15c

Vatican Palat. 1414

Vatican Reg. 1013

Vienna 2323, 14c, 2<sup>r</sup>-83<sup>v</sup> (-21<sup>v</sup>)

Vienna 2385, 13c, 1<sup>r</sup>-41<sup>r</sup>

Wolfenbüttel 2637, 15c, 171-180<sup>v</sup>

Wolfenbüttel Aug., fol. 65

#### a. Principal version

Inc.: Quoniam cuiusque ...

Cap. 1: Ad sciendum qua feria quilibet mensis annorum Christi incipit. CUM QUILIBET ANNORUM CHRISTI qua feria incipiat scire uolueris, annorum [+ persarum] perfectorum summam accipies [-ias] eique quartam partem eorum adiungens ...

Cap. 2: Ad inueniendum annos arabum per annos Christi. SI AUTEM ex annis Domini Christi annos arabum cupis inuenire, ex summa annorum Christi perfectorum 621 minue et ...

Book 2: Secunda particula que est de sinibus et declinatione [inuentio sinus et declinationis per gardagas]. CUM CUIUSLIBET GRADUS scire uolueris sinum uel declinationem gradus omnes qui sunt ab Ariete in primum gradum cum eo computa et habebis argumentum ...

Book 3 cap. 6: Ad inueniendum loca Saturni Iouis et Martis. CUM QUILIBET trium superiorum tibi placuerit adquare, medium cursum cuiusuis eorum quere quem ex medio cursu Solis deme et quod remanserit pro argumento eiusdem planete tene ...

Book 4 cap. 34: De equatione motus octaue spere contra motum none spere. CUM MOTUM accessionis et recessionis octaua circuli examinare uolueris ut per eum altitudinem planetarum meridianam atque stellarum fixarum certissime uoleas inuenire necnon quantitatem proportionis circuli eorum diurne atque nocturne cum annis arabum perfectis tabulam accessionis et recessionis ad annos collectos ingredi quomodo sit in extractione medii cursus planetarum ...

Expl.: Inuentio sinus secundum minores circuli portiones. SI IAM UOLUERIS inuenire sinum huius kardage 6° in sinum 30° ... ita [idem] etiam facies cum uniuersis gradibus usque ad 90° perfectos [in perfectionem 90°].

Sign.: Expliciunt canones Arzachelis super tabulas astronomie constitutas ad meridiem ciuitatis Tholeti.

Manuscripts: \*Erfurt 2° 394, 14c, 120<sup>r</sup>-128<sup>v</sup>

\*\*Erfurt 4° 355, 13-14c, 117<sup>r</sup>-130<sup>r</sup>

\*Erfurt 4° 364, 14c, 4<sup>r</sup>-31<sup>v</sup>

\*Erfurt 4° 367, 13c, 1<sup>r</sup>-26<sup>v</sup>

\*\*Erfurt 4° 376, 14c, 116<sup>r</sup>-117<sup>v</sup> (fragment of book 2)

\*Erfurt 8° 82, 13c, 1<sup>r</sup>-92<sup>v</sup>

- \*Nuremberg Cent V 64, 13c, 109<sup>r</sup>-116<sup>v</sup> (beginning lost)  
 \*\*Paris BN 7267, 14c, 7<sup>v</sup>-15<sup>r</sup> (expl.: precognitis ascensionibus preteriti anni)  
 \*\*Paris BN 7336, 14c, 196<sup>r</sup>-223<sup>r</sup> (two sets of tables)  
 \*\*Paris BN 7421, 14c, 91<sup>r</sup>-117<sup>v</sup> = 89<sup>r</sup>-115<sup>v</sup>  
 \*\*Paris BN 16202, 13c, 27<sup>r</sup>-49<sup>v</sup>  
 \*\*Paris BN 16211, 14c, 1<sup>r</sup>-21<sup>v</sup> (tables 22<sup>r</sup>-98<sup>r</sup>)

#### b. Liber Zapharis Alphragani de arte astronomica

Prolog.: Quoniam cuiusque ...

Cap. 3 (= 2): De inuentione annorum arabum per annos Christi uel grecorum. CUM UOLUERIS scire in quo mense sis ex mensibus arabum et quot menses erunt per annos Christi uel Alexandri, accipe annos Christi uel Alexandri perfectos et minue ex eis per Christo 631 ...

Book 2: Cum uolueris scire sinum uniuscuiusque quot gradus uel declinationem accipe gradus ab initio Arietis usque ad ipsum gradum quem uolueris ...

(Book 3 cap. 6): De equatione Saturni Iouis et Martis. CUM UOLUERIS equare Saturnum Iouem Martem quere medium cursum cuiusuis eorum et minue eum de medio cursu Solis et quod remanserit erit portio. Serua eum; minue quoque de medio cursu planete augem eius, residuum punctum erit ...

(Book 4 cap. 34): De inuentione motus stellarum fixarum. CUM UOLUERIS motum fixarum scire, intra tabulas motus accessionis et recessionis per annos arabum perfectos quem admodum facis in extractione medii cursus planetarum ...

Expl.: De reuolutione annorum a natiuitate cuiuslibet. SI AUTEM UOLUERIS hoc tractare a natiuitate cuiuslibet alio modo, aspice quod transierit ab ortu Solis diei natiuitatis ... errasti re uera ut cognoscas si Deus uoluerit.

Manuscript: \*\*Paris BN 16208, 13c, 93<sup>r</sup>-99<sup>v</sup> (tables 4<sup>r</sup> seq. are not for this text)

#### c. Another version

Text: characterized by a different explicit which may perhaps indicate the best known version. Millás (*Trad.*, 167-170) gives the table of chapters for ms. Madrid.

Inc.: QUONIAM cuiusque ...

Expl.: ... per quas horas inuenies signum oriens et eius gradum sicut ostensum est in precedentibus.

Manuscripts: Cues 210, 14c, 1<sup>r</sup>-31<sup>r</sup> (attrib. to Tholomeus rex Egiptus)

\*Erfurt 2<sup>o</sup> 38, 13c, 3<sup>r</sup>-10<sup>v</sup>

\*\*Erfurt 8<sup>o</sup> 88, 14c, 59<sup>r</sup>-77<sup>v</sup>

\*Madrid BN 10009, 13c, 3<sup>r</sup>-17<sup>r</sup> (additional expl.: ... quantitatem eclipsis)

\*Oxford Digby 20, 12-13c, 4<sup>r</sup>-21

\*Oxford Digby 191, 13-14c, 79<sup>r</sup>-102

\*Oxford Digby 215, 15c, 57-68

Paris BN 7271 and 9257 (acc. Mill. 167)

#### d. Lectiones tabularum secundum Arzachelis

Text: also attributed to Abredele (?) of Spain; but the contents are clearly those of the work of az-Zarqālī and apparently from a third translation; cf. Th. 3.15.

Title: Hec est doctrina tabularum secundum Arzerkel hispanorum qui dictus est Albategni ...

Inc.: In nomine Domini: SCITO QUOD ANNUS lunaris sit ex 354 diebus [+ et quinta] et sexta diei parte. Cum autem fuerit hec fractio in anno dimidium uel minus dimidio ...

(Bk. 3 cap. 5): De equatione trium superiorum. CUM UOLUERIS equare aliquem eorum, extrahe medium cursum illius et medium cursum Solis et minue medium cursum planete de medio cursu Solis et quod remanserit erit portio. Postea minue de medio cursu planete augem illius et quod remanserit erit cuspis ...

(Bk. 4 cap. 34 not here represented)

Expl.: ... reuolutione anni mundani.

Edition: 1547, Venice (acc. TK 651)

Manuscripts: \*Cambridge Gonville and Caius 504/383, 13c, 111<sup>v</sup>-126

\*Cambridge Univ. Kk I 1, 13c, 135<sup>r</sup>-171<sup>r</sup>

\*\*Erfurt 4<sup>o</sup> 363, 14c, 58<sup>r</sup>-64<sup>r</sup>

\*Oxford Digby 168, 14c, 84<sup>r</sup>-93<sup>r</sup> (attrib. to Stantonus)

Paris BN 7281, 17<sup>r</sup>-28<sup>v</sup>

\*\*Paris BN 16658, 14c, 2<sup>r</sup>-31<sup>v</sup> (calendar 32<sup>r</sup>-42<sup>r</sup>, two sets of tables to 137<sup>r</sup>)

\*Prag 691, 13-14c, 1<sup>r</sup>-34<sup>r</sup>

#### 2. Liber saphee

Arabic: probably the text of ms. Escorial 962 (Derenb.): Kitâb al-'amal bi 'ṣ-ṣafiḥat, in 100 chapters. Ms. Paris BN 7195 contains elaborate drawings of the instrument described, with tables of stars and methods for computation by regions.

#### a. William of England (?) (1231)

Translator: variously considered to be William of England, John of Brescia, or Prophantius; see Th. 3.201.

Collation: Edit. 1932 merely gives uncritical samples from ms. Paris 7195; edit. 1933, based on ms. Madrid 10053, is better,

but the end as given is part of another work. Ms. Paris 7195 is complete and reliable.

Title: *Compositio tabule que saphea dicitur siue astrolabium Arzachelis.*

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Al-Ghazzâlî

Prol.: *SIDEREI MOTUS et effectus motuum speculator et duplex dux Ptolomeus inter cetera sui ingenia astrolabium edidit ... usque ad ... 1231 ... enodabimus.*

Inc.: *Sequitur de distinctionibus eius in corpore meridiano et equatore. SIGNATIS IN SPERA utrumque per interualla quinos gradus ...*

Expl. cap. 61: *... et cum hoc feceris, peruenies ad scientiam illarum duarum horarum si Deus uoluerit.*

Sign.: *... translatum ... apud Montem Pessulanum de arabico in latinum in anno ... 1263 Profatio gentis hebreorum uulgarizante Iohanne Brixienti in latinum reducente.*

Editions: \*\*1932, Oxford, by R. Gunther, in *The Astrolabes of the World*, pp. 259-262 (sample passages from ms. Paris 7195)

\*\*1933, Barcelona, by Millás, *Estudios*, pp. 114-152.

Manuscripts: Cambridge Gonville and Caius 141, pp. 563-582 (acc. Millás)

London BM Harley 625, 165<sup>r</sup>-173<sup>r</sup> (acc. Millás)

\*Madrid BN 10053, 13c, 1<sup>r</sup> seq. (end lost)

\*Oxford Digby 167, 14c, 67<sup>v</sup>-71<sup>v</sup> (inc.: *Distinctiones eius instrumenti ...*)

\*\*Paris BN 7195, 14c, 74<sup>r</sup>-91<sup>v</sup>

Paris BN 7437, 15c, 183<sup>v</sup>-187<sup>r</sup> (TK 690)

Paris BN 16652, 13c

### 32.—Al-Ghazzâlî [Alghazel]

Author: Muḥammad b. Muḥammad aṭ-Ṭûsî ash-Shâfi'î al-Ghazzâlî, Abû Ḥâmid, born 451/1058, active in Bagdad, died 505/1111-1112; primarily a theologian, well known in Latin in that capacity. See Br. '98, 419 seq., '37, 744 seq. For other works see TK 227, 307, 656, 658.

#### 1. Tractatus de planetis

Text: unknown in Arabic and perhaps spurious. There is said to be an *INTRODUCTIO AD LIBRUM IUDICIORUM ARABUM* at Oxford.

Prol.: *UISEO DE PLANETIS in mundo minori nunc autem quid operentur ...*

Cap. 1: *Uiso de Saturno nunc de Ioue ...*

Last cap.: *Uiso de Mercurio nunc ... coniungitur in hanc sola scientia ultra 30 non accipiat.*

Sign.: Explicit Alghazel.

Manuscript: \*\*Erfurt 8° 79, 14c, 47<sup>v</sup>-49<sup>r</sup>

### 33.—Jâbir ibn Aflaḥ [Geber Aven Afflah]

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The  
Encyclopaedic  
Period

Author: Jâbir ibn Aflaḥ Abû Muḥammad al-Ishbîlî, died ca. 535-545/1145; see Suter 119. Not to be confused with the better-known Jabir, the alchemist.

#### 1. Elementa astronomica

Arabic: Kitâb al-hay'a, or Iṣlah al-majistî, mss. Berlin 5663, Escorial (Derenb.) 910, 930, Paris BN Hebr. 1102 (in Arabic). Contents: nine books of spherical demonstrations intended primarily as criticism of many technical doctrines of Ptolemy's *Almagest*.

Significance: quoted on occasion by Western writers, but rather too technical for this purpose. On use made of this work by al-Bitrûjî see my edition, pp. 29-32.

#### a. Gerard of Cremona

Collation: The edition is excellent and complete. I have collated several long passages with the three Paris mss., finding only minor variants. For my collation of one long passage in these four copies see my edition of al-Bitrûjî, p. 31.

Title: *Elementa astronomica; Flores in et super astronomia.*

Prol.: *SCIENTIA SPECIES HABET quarum melior post scientiam fidei est cuius ...*

Inc.: *Et incipiamus exponere intentiones nominum ...*

Expl.: *... sunt digniores et euanescant et destruantur.*

Sign.: *Completus est tractatus nonus et est ultimus libri. Hunc librum transtulit in Toletum magister Gerardus cremonensis de arabico in latinum.*

Edition: \*\*1534, Nuremberg (with P. Apianus, *Instrumentum primi mobilis*, separately paginated), 1-146 (NY Publ.)

Manuscripts: \*Cracow 569, 14c, 132<sup>r</sup>-235<sup>r</sup>

Cracow 1921, 14c, 1<sup>r</sup>-242<sup>r</sup>

Cracow 1964, 15c, 1<sup>r</sup>-337<sup>r</sup>

Dresden Db 87, 15c, 162<sup>r</sup>-268<sup>r</sup>

\*Erfurt 2° 382, 15c, 110 fol.

Erlangen 786, 16c, pt. 7

\*Florence Laur. San Marci 215, ca 1400, 1<sup>r</sup>-124<sup>r</sup>

\*Madrid BN 10006 (Toledo 98-16), 14c, 1<sup>r</sup>-152<sup>r</sup> (complete acc. Millás, who gives photo of fol. 1<sup>r</sup>)

Oxford St. Johns, ca. 1500

- \*\*Paris Arsenal 1035, 14c, 1<sup>r</sup>-79<sup>v</sup>  
 \*\*Paris BN 7267, 24 (fragment of prol. and cap. 1)  
 \*\*Paris BN 16198, 74<sup>r</sup>-112<sup>r</sup> (end lost)  
 Vatican lat. 2059, 1-192  
 Venice 11-60  
 Vienna 5392, 15c, 1<sup>r</sup>-227<sup>v</sup>  
 Vienna 10905, 16c, 1<sup>r</sup>-146<sup>v</sup>

2. *Almagestum paruum*

Text: considered spurious but for no valid reason; also attributed to al-Battâni (see Nal. lxxvi). Six books devoted to demonstrations of geometric theorems illustrated by diagrams, after Euclidean methods of presentation; for fuller detail see Millás, *Trad.*, 203-205. (Jâbir): Other mss. listed by Zinner (Leipzig, Prag, etc., and Vatican Reg. 1012 and 1261). Erfurt 2° 393 contains lemmata from this text in what appears to be a commentary on the first books of Ptolemy's *Almagest*.

## a. Gerard of Cremona

Text: quoted by Albertus Magnus by 1280 (acc. TK 2.529).  
 Collation: Mss. Paris are probably complete.  
 Inc.: OMNIUM RECTE PHILOSOPHANTIUM non solum uisibilibus et credibilibus argumentis sed et firmissimis rationibus deprehensum est formam celi spericam esse ...  
 Theorem 1: DATA CIRCULI DIAMETRO latera decagona [-i] pentagona [-i] exagona ...  
 Demonstration: Lineetur enim super AG diametrum ...  
 Last theorem: Flexus tenebrarum siue in Soli siue in Lune defectu patentur assignare.  
 Last demon.: Properet euidetiam ... tunc ipse locus Solis et inclinationes quod tenebrarum sic se habent.  
 Manuscripts: \*Erfurt 2° 383, 14c, 1<sup>r</sup>-51<sup>v</sup>

\*Erfurt 4° 356, 15c, 1<sup>r</sup>-101<sup>v</sup> (expl.: a nodo ad terminos eclipticos)

\*Basel F II 33, 14c, 221<sup>r</sup>-244<sup>r</sup>

\*Dresden Db 87, 104<sup>r</sup>

\*Florence Laur. Conv. Sop. 414, 1<sup>r</sup>-45<sup>r</sup>

\*Munich 56, 15c, 1-122

\*\*Paris BN 7399, 14c, 15<sup>v</sup>-93<sup>v</sup>

\*\*Paris BN 16657, 14c, 82<sup>v</sup>-132<sup>r</sup>

Toledo 98-22, 14c, 67<sup>r</sup>-80<sup>v</sup>

\*Vienna 5266, 15c, 176<sup>r</sup>-228<sup>v</sup>

Vienna 5292, 15c, 1<sup>r</sup>-65<sup>v</sup> (*Epitome in Almagestum* attrib. to Albertus Magnus, no detail given)

Vienna 10905, 16c, 1<sup>r</sup>-146<sup>v</sup>

## 34.—Aḥmad b. Yūsuf b. Kammād [Abiyafar]

Author: Abū Ja'far Aḥmad b. Yūsuf b. Kammād, active in Spain or North Africa, died 591/1195; see Millás, *Trad.*, 231 seq.

## 1. Tabule astronomie

Arabic: Al-Muqtabis, or al-Kawr'ala ad-dawr, acc. Millás, now lost; see also his *Estudios sobre Azarquiel*, 345-347. Based on az-Zarqālī.

## a. Iohannes de Dumpno (1260)

Prol.: Post laudem uero Dei ... Iste canon extractus a canonibus

...

Inc.: OPORTET OMNES generationes habere annos notos ...

Expl.: ... Solis in canone cawr hale eddawr noluimus memoriam eorum hic in canone.

Sign.: Dixit Ebiyahfar ... domino dominantium. Et perfecta ... in Panormitana ciuitate per Iohannem de Dumpno ... die ueneris 27 aug. ... 1260. Et concordatus ... feliciter.

Manuscript: \*Madrid BN 10023, 14c, 1<sup>r</sup>-18<sup>v</sup> (described by Millás)

## b. Associated text

Contents: as if a further part of the above.

Rubr.: Porta sexagesima et ultima in scientia aptationis ...

Inc.: SCIENDUM EST quod in tabulis istis ... uocantur el-muctebis ...

Expl.: ... annorum natiuitatum scias hoc.

Another chapter (?) expl.: ... significationis et iudicii. Perfecta ... per Iohannem de Dumpno ... 1262 ... Amen.

Manuscript: \*Madrid BN 10023, 14c, 18<sup>v</sup>-23<sup>r</sup>

## 35.—Al-Bīrūjī [Alpetrangius]

Author: Nūr ad-Dīn al-Bīrūjī al-Ishbīlī, Abū Ishāq (in Latin Alpetrangius, Aven Alpetraus, Abuysac, etc.), active at Seville about 581/1185; see Br. '37, 866, Sarton 2.399, and my critical edition.

## 1. De motibus celorum

Arabic: Kitāb fi 'l-hay'at, mss. Serāi arab. 3302, Escorial 680 (Derenb. 963). A formal astronomy of theoretical and metaphysical tendencies.

Text: shorter than the Arabic on account of numerous omissions of sentences and minor passages.

Invoc.: In nomine Domini nostri Ihesu Christi omnipotentis ...

Inc.: DETEGAM TIBI SECRETUM pectoris mei, et est ratio profunda ...

Expl.: ... in suo motu cum toto et totum motum unum sine motibus diuersis.

Sign.: Perfectus ... translatus a magistro Michaelae Scoto Tholeti in 18<sup>a</sup> die ueneris augusti hora tertia cum Abuteo leuite anno incarnationis Ihesu Christi 1217.

Edition: \*\*1952, Berkeley, Calif., edit. F. Carmody (using 10 mss.)

b. Calo Calonymos (1528)

Text: translated from a Hebrew translation of the Arabic; closer than *1a* to the Arabic.

Title: Theorica planetarum phisicis rationibus probata Alpetragii arabi nuperrime ad latinos translata [latinis litteris mandata] a Calo Calonymos hebraeo neapolitano.

Invoc.: PROROGET TIBI uitam frater optime Deus cui plurima laude tributa.

Inc.: INTENTIO NOSTRA est tibi patefacere rem ...

Expl.: ... quoad motum et nihil ex eo procedit contra motum uniuersum eius.

Invoc.: ... et pacem tuam adaugeat et pietate perspiciat.

Sign.: Et hic finis ... translatus ... Venetiis 1528.

Edition: \*\*1531, Venice, bound with edit. 1531 (March): Venice: Luce Antonii Iuntae, of Sacrobosco, *Sphaera mundi noviter recognita*, separate pagination 1<sup>r</sup>-27<sup>v</sup>

# WESTERN COMPILATIONS

Texts: I have selected those works which are or appear to be the work of Europeans but which are based directly on Arabic scientific literature. Their value is philological or technical or both.

## 36.—Theorica planetarum

Texts: anonymous technical presentations of celestial mechanics, usually in the form of definitions of terms and rules for computations of planetary movements. These may have been inspired by the work of al-Khwârizmî and of al-Farghânî, but I believe that they derive more immediately from Hindu doctrines; see my edition of Leopold, pp. 41-43.

### 1. Theorica planetarum Gerardi

Attribution: The Latin style is not that of Gerard of Cremona, but may well be that of Gerard of Sabbioneta; see my edition, p. 8.

Text: The Latin manuscripts suggest that a main tract was twice augmented by additions of further chapters at the end; on the close correspondence with Leopold see the variants of my edition of the present text, where all pertinent details are recorded.

Contents: rules for computation of angles and distances, illustrated by diagrams, and mentioning tables which are no longer extant.

Significance: widely read and copied, and rewritten by G. Peurbach in his *Theoricae nouae planetarum*, Venice: Ratdolt, 1482, etc., etc. Commentated several times, by Simon Bredon, Walter Brit, etc. (unstudied).

Inc.: CIRCULUS EXCENTRICUS uel egresse cuspidis ...

Expl.: ... erunt iuncti lumine ipsi planete et non corporaliter.

Cap. de reflexione: Linea egrediens a centro terre ... aggregatur de reflexione est 1° et 4'.

Editions: \*\*1942, Berkeley, Calif., by F. Carmody (from 14 copies, including edit. 1472, 1478, 1518, and 11 mss.; 1 note 33 other mss.)

a. Commentary

Text: based on the above; contains references to Alfonsus (King of Spain?).

Title: Sensualis expositio Theorice.

Inc.: UT AUTEM PLENIUS intelligantur ...

Manuscript: \*Vienna 3162, 15c, 227<sup>r</sup>-230<sup>v</sup> (acc. Saxl 2.130)

b. Commentary by Simon Bredon

Manuscripts: Oxford Digby 93 and 98

c. Commentary by Walter Brit

Manuscripts: Oxford Digby 15 and 47

2. Roger of Hereford (?)

Text: 32 chapters on the use of tables; see Haskins 125.

Inc.: DIUERSI[UNIUERSI] ASTROLOGI secundum diuersos annos tabulas ...

Manuscripts: see Haskins 125

3. Theorica planetarum

Text: quotations from Ptolemy, al-Farghânî, and al-Battânî, Toledan tables; the general content of the other *Theoricae*.

Prol.: FLORIDAS OLIM legere doctrinas quas edidere uetustatis uiri stringetur et antro codicis ...

Rubr.: De consideratione status astronomie et diuisione eiusdem in generali.

Inc.: RERUM OPIFEX et siderum uniuersorum ...

Expl.: ... stellarum motibus in magnitudine proposuimus enarare et sic anaglypharum liber primus explicat.

Manuscript: \*\*Dresden 10661, 15c, 64<sup>r</sup>-74

37.—John of Seville

Author and translator: see index (below), and note further original works in TK 55, 116, 594, 679, 735. I include here only those titles which appear to have some immediate relationship to original Arabic work, that is, work composed by John of Seville with use of Arabic documents. His achievement in this respect differs from the other Western compilers,

Bonatti, Leopold, etc., who had no knowledge of Arabic literature in the original.

1. Quadripartitum (Epitome totius astrologie, 1142)

Contents: quotations from many writers, possibly compiled from existing Latin translations, though no study has been made of this matter: Ptolemy, 'Doronius' (Dorotheus), Māshā'allāh, al-Kindī. An important tract on the lunar mansions, with values of arc for positions of A.D. 1142, inspired by the comparable parts of the main work of Ibn abi 'r-Rijāl and apparently based on an Arabic ms. of his work.

Significance: The facts suggested above imply that parts at least of this work are original translations or adaptations from Arabic which may be of real critical value. John's reputation as an original writer depends largely on this work. Collation: I have compared the first and last folios of the three mss. marked with [\*\*], finding close correspondence; I have compared the passages on the lunar mansions from the edition with the editions of the work of Ibn abi 'r-Rijāl, finding parallelisms and differences of detail.

Inc.: ZODIACUS [+ UEL CINCTURA FIRMAMENTI] diuiditur in duodecim signa principaliter, signum in 30 gradus ...

Expl.: ... a circulo recto a 12° [16°] Arietis hoc tempore 1142 annorum Christi.

Edition: \*\*1548, Nuremberg: Iohannes Montanus, edit. by I. Heller  
Manuscripts (only those seen or previously described in some detail):

\*\*Boston Medical 4, 15c, 1<sup>r</sup>-50<sup>v</sup>

\*\*Erfurt 2° 394, 14c, 68<sup>r</sup>-79<sup>r</sup>

\*Paris BN 7321, 15c, 122<sup>r</sup>-154<sup>v</sup>

\*\*Vienna 2436, 14c, 206<sup>r</sup>-228<sup>v</sup> (expl.: .. nam libenter exsit istis emptis)

\*Vienna 5442, 15c, 158<sup>r</sup>-179<sup>v</sup>

2a. Astrolabe

Inc.: CUM UOLUERIS facere astrolabium accipe auricalcum optimum quod est ceteris metallis ...

Expl.: ... alahancabuth id est aranea cuius hec est figura.

Edition: \*\*1942, Millás (*Trad.*, 322-327)

Manuscript: Paris BN 7293A, 1<sup>r</sup>-6<sup>r</sup> (acc. Th.)

\*Toledo Cath. 98-27, 15c, 35<sup>r</sup>-45<sup>v</sup>

2b. Astrolabe

Inc.: ASTROLOGIE SPECULATIONIS exercituum habere uolentibus eius instrumenti ...

Expl.: ... exemplar eas in astrolabii notabit regula. Cuius hec est figura.

Edition: \*\*1942, Millás (316 seq.)

Manuscripts: \*Erfurt 4° 386, 14c, 110<sup>v</sup>-115<sup>v</sup>

Oxford Merton 259, 13c, 89<sup>v</sup> (acc. Th.)

\*Madrid BN 10009, 13c, -20<sup>r</sup>

\*Madrid BN 10063, 10<sup>v</sup>-12

\*Paris Arsenal 879, 13c, 48<sup>r</sup>-55

### 3. De mutatione aeris

Text: either a compilation containing chapters from 'Umar, Dorochoius, etc., or a chapter from such a compilation; lunar mansions.

Contents: prognostications by conjunctions, in 2 chapters.

Inc.: CUM FUERIT in hora reuolutionis Mars in domibus suis ...

Expl.: ... angulos suumque dominum suum quam aspectum.

Sign.: Terminatur tractatus de imbribus hispanensis.

Manuscript: \*\*Vienna 2436, 14c, 136<sup>v</sup>-138<sup>r</sup>

### 4. Iudicia

Text: related to Sahl no. 2.

Inc.: CUM UOLUERIS eligere horam in acceptione ...

Expl.: ... numerus passionum.

Manuscripts: \*Erfurt 4° 174, 15c, 108<sup>r</sup>.

\*Erfurt 4° 377, 14c, 7<sup>r</sup>-11<sup>v</sup>

### 5. Liber natiuitatum

Text: quotes Māshā'allāh, Doronius, Abū Ma'shar. Probably a pt. II of I above.

Prol.: PRIMUM CONSIDERANDUM est minutum gradus signi ascendentis cum astrolabio ...

Inc.: DOMUS PRIMA ad sciendum modum anime nati ... Luna uaccas.

Book 2: In reuolutione anni multa habemus considerare ... fieri debeat reuolutio.

Manuscripts: \*Erfurt 4° 379, 14c, 26<sup>r</sup>-37<sup>v</sup> (expl.: ... bestiis emptis)

\*Madrid BN 10009, 13c, 39<sup>r</sup>-46<sup>v</sup>

## 38.—Leopold of Austria

Author: unidentified, active about 1271; see my edition, p. 37, Sarton 2.996.

### 1. Compilatio de astrorum scientie

Text: a long compilation from existing Latin translations of Arabic works on astronomy and astrology, arranged systematically by subject matter, divided into books and chapters.

Contents: astrological practices of all kinds and schools, an important planetary theory, star lists, list of constellations and images.

Sources: Reference is frequently made to 'Haly,' Sahl, Māshā'allāh, Abū Ma'shar, Ptolemy, Thābit, and al-Kindī. I have identified some of the borrowings from Abū Ma'shar and al-Kindī, and the relationship to Thābit's work on images, see those authors and my edition, preface and notes on the text and in the glossary.

Significance: A fair number of Latin mss. and a fourteenth-century French translation, added to frequent quotations in works of the 14-15th c., indicate that this work was widely read and esteemed. Its importance today lies in its rich source materials, difficult to identify because Leopold reworded them somewhat and fused quotations into a running text.

Collation: of parts mentioned above with the sources and with the French translation throughout; edit. 1520 is defective reprint of that of 1489, the latter is complete and excellent throughout.

Editions: \*\*1489, Venice and Augsburg: Erhardus Ratdolt

\*\*1520, Venice, defective reprint of 1489

\*\*1947, Berkeley, Calif. by F. Carmody (French translation of the 14th c. books I-III, critical edition)

### 2. Liber regum de significationibus planetarum in 12 domiciliis

Text: has never been examined, contents and authenticity unknown.

Editions (acc. to Houz. 773), 1564, simultaneously in Prag, The Hague, and Cologne

## 39.—John of Ashenden

Author: active 1340-1370, variously called John of Eshenden, Eschuid, etc.; see Th. 3.325, 330.

### 1. Summa astrologiae de accidentibus mundi

Contents: many long verbatim transcriptions, or slightly reworded, from the works of aṭ-Ṭabarī (edit. fol. B3<sup>v</sup>), Māshā'allāh (16<sup>r</sup>), etc. Collation shows that his quotations from 'Alī ibn abi 'r-Rijāl 8.36 were adjusted by the printer to correspond literatim with edit. 1485 of the Arabic writer, while those from 8.37 show normal variants of a manuscript copy. The quotations from *De magnis coniunctionibus* of Abū Ma'shar are in better form and with better variants than the same passages in the edition of the latter.

Edition: \*\*1489 (nonis lulū), Venice.



Author: Guido Bonatus de Forlivio, died about 1297; see Th. 2.825-836, 839, Sarton 2:2.989, *ZDMG* 18.189-200, Saxl '25, 91-96. A practicing astrologer noted for his immense compilation below.

## 1. Liber introductorius ad iudicia stellarum

Contents: ten books, with a formal defence of astrology (1.1.4 = edit. 1506 A2<sup>v</sup>), a planetary theory (3.2 = E5<sup>r</sup>), a tract *De revolutionibus annorum mundi* (S5<sup>v</sup>), another on the lunar mansions (HH2<sup>r</sup>), and a complete survey of all branches of astrology.

Sources: These are too numerous to list in full, and no study has been made of them other than details here given: al-Farâbî A5<sup>v</sup>, Mâshâ'allâh B3, D4-5, S5<sup>v</sup>, T6<sup>r</sup>, Abû Ma'shar B3 *passim*, al-Qabî'sî B3, C3<sup>v</sup>, D4<sup>v</sup>, E5<sup>r</sup>, Thâbit *De imaginatione spere* C2<sup>v</sup>, complete horoscopes from Sahl I3<sup>r</sup>, M1<sup>r</sup>, 'Haly' P2<sup>v</sup>, P4<sup>v</sup>, Ptolemy's *Centiloquium* P1<sup>r</sup>, R2<sup>r</sup>, at-Tabarî R3<sup>v</sup>, Vettius Valens AA3, 'Alezdegoz' C3<sup>r</sup>, C4<sup>v</sup>, C5<sup>r</sup>, 'Alchaiat' R2<sup>v</sup>, 'Gafar' HH2<sup>v</sup>. A few further details in Saxl, *loc. cit.*

Significance: certainly as a sourcebook for quotations from works which otherwise may not be extant.

Collation: I have used edit. 1506 extensively for the foregoing information and for comparisons with the sources. I have further compared the first and last folios of ms. Paris 7329; both copies are good and apparently complete.

Ribr.: Incipit liber introductorius ... et collegit in eo ex dictis philosophorum ...

Prol.: In nomine Domini nostri Ihesu Christi ... Unde ego Guido Bonattus ...

Inc.: ANIMA EST NOBILIUS quo reperitur in homine ...

Sign.: ... summa Guidonis de Bonactis de fortunis.

Editions: 1491, Augsburg (copy at Columbia Univ.), 1<sup>r</sup>-82<sup>v</sup> (Zinner 1522)

\*\*1506 (3 July), Venice: Jac. Pentius leucensis, for M. Sessa

1530, Basel

1550, Basel (acc. Nal. 1.xliii)

Manuscript: \*\*Paris BN 7329, 15c, 1<sup>r</sup>-39<sup>r</sup>

## 41.—Varia

Texts: several different tracts worthy of special notice and apparently of Arabic origin.

## 1. Geomancia

Text: perhaps by Hugh of Santalla and presumably based on a work of one Alatrabulucus of Tripoli; Haskins, pp. 77-79, gives the complete prologue.

Prol.: RERUM OPIFEX Deus qui sine exemplo ... ego Sanctiellensis ... mi domine Tirasonensis antistes ...

Inc.: ARENAM LIMPIDISSIMAM a nemine conculcatam ...

Expl.: ... earum itaque numerus 484 formularum fore non dubitatur quod Deus melius novit.

Manuscripts: Cambridge Magdalen 27

\*Erfurt 4° 361, 14c, 74<sup>v</sup>-79<sup>r</sup> (expl.: ... egrum minus dolere)

\*Erfurt 4° 377, 14c, 70<sup>v</sup>-76<sup>v</sup> (expl.: ... sermones modestos)

Oxford Bodl. 625, 54-

\*Oxford Digby 50, 13c, 1<sup>r</sup> (-73)

Paris BN 7354, 13c

Vatican Palat. 1457

Vienna 5327

Vienna 5508

## 2. De eris seu intervallis

Text: pt. II in 26 chapters, translated by Gerard of Cremona, quotes al-Khwârizmî and Ptolemy, and bears two dates, A.H. 586 ... anni Christi 1191 (fol. M4<sup>v</sup>) and 21 May 1251 = A.H. 328, at Cordoba. Has been attributed to Campanus and is said in the edition to be 'Scriptum cuiusdam Hebraei' for pt. 1 and 'Scriptum cuiusdam Saraceni' for pt. 2.

I. PRIMA ERARUM est a creatione mundi ...

II. SCIAS QUOD FAMOSIOR erarum quibus nunc utimur ...

Cap. 2: De arcubus cordis ac sinibus ... ARCUS EST PORTIO circumferentie circuli ...

Cap. 3: De declinatione. CUM UOLUERIS SCIRE declinationem ...

Edition: 1549 (omn. 12), part I K4<sup>v</sup> seq., tables M2<sup>r</sup>-M4<sup>v</sup> (A.H. 586); part II N1<sup>r</sup>-Y1<sup>v</sup>

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